# POWER AMPLIFIER
# SERVICE MANUAL

## CE Series
CE 4000

Some models may be exported under the name *Amcron*®



A Harman International Company

130485-1
11/02
Rev. B

The information furnished in this manual does not include all of the details of design, production, or variations of the equipment. Nor does it cover every possible situation which may arise during installation, operation or maintenance. If you need special assistance beyond the scope of this manual, please contact the Crown Technical Support Group.

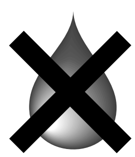
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## CAUTION

TO PREVENT ELECTRIC SHOCK DO NOT REMOVE TOP OR BOTTOM COVERS. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. DISCONNECT POWER CORD BEFORE REMOVING REAR INPUT MODULE TO ACCESS GAIN SWITCH.

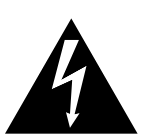
## AVIS

À PRÉVENIR LE CHOC ÉLECTRIQUE N’ENLEVEZ PAS LES COUVERTURES. RIEN DES PARTIES UTILES À L’INTÉRIEUR. DÉBRANCHER LA BORNE AVANT D’OUVRIR LA MODULE EN ARRIÈRE.



## WARNING

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE!



The lightning bolt triangle is used to alert the user to the risk of electric shock.



The exclamation point triangle is used to alert the user to important operating or maintenance instructions.

# Revision History

| Revision Number | Date | Comments |
|---|---|---|
| Rev. A | 05-2001 | Initial Printing |
| Rev. B | 11-2002 | Added missing parts list on Page 5-76. Updated area code and mailing address on Pages 1, 2 and 7. Updated sections 3.2.4, 4.3.3, 4.3.9, 4.4.5, 4.6.1, 4.6.8, 4.7.2, 4.7.3, Figure 4.16. Added notes to pages 5-39, 5-73, 5-97. |

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# 1 Introduction

## 1.1 Introduction

This manual contains complete service information on the *Crown*® CE 4000 power amplifier. It is designed to be used in conjunction with the *CE 4000 Reference Manual*; however, some important information is duplicated in this Service Manual in case the *CE 4000 Reference Manual* is not readily available.

**NOTE: THE INFORMATION IN THIS MANUAL IS INTENDED FOR USE BY AN EXPERIENCED TECHNICIAN ONLY!**

## 1.2 The CE 4000 Amplifier

The Crown CE 4000 is a compact audio amplifier designed for professional use, providing high-power amplification from 20 Hz–20 kHz with minimum distortion. The CE 4000 features Crown's patented, award-winning BCA® (Balanced Current Amplifier) engineering, for superior power output, increased efficiency, legendary Crown sound and extraordinary reliability. Crown's enhanced, switch-mode power supply with power factor correction allows the amplifier to be used worldwide without changing power supply components or settings. Other features include selectable on-board high-and low-pass filter sets, SST (System Solution Topologies) module compatibility, and a choice of dual output connectors: Speakon® plus 5-way barrier block, 5-way barrier block plus binding strip, or dual Speakon.

## 1.3 Scope

This Service Manual in intended to apply to all versions of the CE 4000 amplifier. The Parts Listings include parts specific for the US version and the European version. For parts specific only to other versions contact the Crown Technical Support Group for help in finding part numbers.

## 1.4 Warranty

Each Reference Manual contains basic policies as related to the customer. In addition, it should be stated that this service documentation is meant to be used only by properly trained personnel. Because most Crown products carry a 3-Year Full Warranty (including round trip shipping within the United States), all warranty service should be referred to the Crown Factory or Authorized Warranty Service Center. See the applicable Reference Manual for warranty details. To find the location of the nearest Authorized Warranty Service Center or to obtain instructions for receiving Crown Factory Service, please contact the Crown Technical Support Group (within North America), or your Crown/Amcron Importer (outside North America). If you are an Authorized Warranty Service Center and have questions regarding the warranty of a product, please contact the Field Service Manager or the Technical Support Group.

**Crown Customer Service**
Technical Support Group
Factory Service
Parts Department

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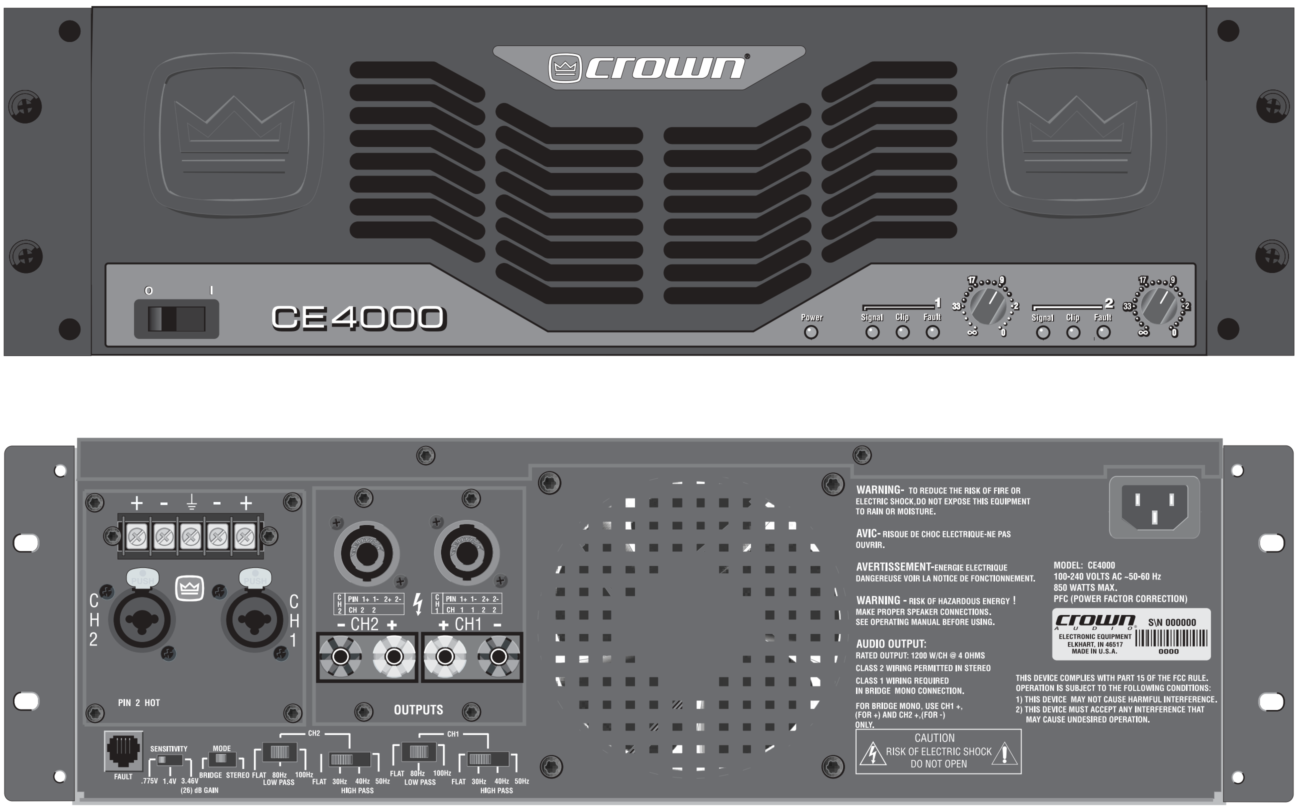



*Figure 1.1 CE 4000 Front and Rear Views*

# 2 Specifications

Note: All measurements are in Stereo mode with 8-ohm loads and an input sensitivity of 26-dB gain at 1-kHz rated power unless otherwise specified.

## Power

**Output Power:**

**CE 4000 Power Chart**

Maximum power @ 1 kHz with 0.5% THD

| | |
|---|---|
| 2 ohm Dual | 1800W[1] |
| 4 ohm Dual | 1200W |
| 8 ohm Dual | 600W |
| 4 ohm Bridge-Mono | 3600W |
| 8 ohm Bridge-Mono | 2400W |

1. ≥ 200-V line voltage.

**Load Impedance:** Safe with all types of loads. Rated for 2, 4 and 8 ohms in Stereo mode, 4 and 8 ohms in Bridge-Mono mode.

**Voltage Gain to 1-kHz, 8-ohm rated output:**

39.0-dB gain at 0.775-volt sensitivity;

33.8-dB gain at 1.4-volt sensitivity;

26-dB gain at 3.46-volt sensitivity.

**Required AC Mains:** 50/60Hz,100-240VAC (±10%).

**AC Line Current,**

100 Volts: 8.5 A;

120 Volts: 7.1 A;

230-240 Volts: 3.7 A;

At Idle: Amp draws no more than 155 watts.

**AC Line Connector:** 15A IEC Connector with Country

Specific Cord and Plug.

Inrush Current*: 50.86 A.

## Performance

**Frequency Response:** ±0.25 dB from 20 Hz to 20 kHz at 1 watt (See Figure 2.1).

**Phase Response:** ±15 degrees deviation from linear phase from 20 Hz to 20 kHz at 1 watt.

**Signal to Noise Ratio, A-Weighted, 20 Hz to 20 kHz:** Better than 100 dB below rated 1-kHz power;

* Per EN 55103-1: 1996 Annex B and Annex F. Highest reading from a sample of 10 random readings.

** Measured using binding-post output connectors.

**Total Harmonic Distortion (THD):** 1-kHz rated power, 0.5% or less THD.

**Intermodulation Distortion (IMD):** (60 Hz and 7 kHz at 4:1) Less than 0.5% at rated power to 30 dB below rated power at 8 ohms.

**Damping Factor:** Greater than 700 from 10 Hz to 400 Hz.**

**Crosstalk:** Better than 50 dB below rated power, 20 Hz to 20 kHz.

**Common Mode Rejection (CMR):** Better than 70 dB from 20 Hz to 1 kHz.

**DC Output Offset (Shorted Input):** ±10 mV.

## Controls & Connectors

**Level:** A 31-step detented rotary level control for each channel located on the front panel.

**Power:** An on/off rocker switch located on the front panel.

**Mode:** Turn power off before switching. A two-position switch located on the back panel below the input connectors which, when turned to stereo, operates the amplifier as two independent channels. When "Bridge-Mono" mode is selected, the amplifier bridges the two output channels for twice the output voltage.

**Sensitivity:** A three-position switch located on the back panel next to the Mode switch. Switchable among 0.775 volts or 1.4 volts for full output into an 8-ohm load (default setting), or 3.46 volts for a fixed voltage gain of 26 dB.

**Fault Jack:** A back-panel RJ-11 jack that may be remotely monitored to signal amplifier Fault condition. An LED or other signalling device (not supplied) may be used.

**Filter Switches:**

**Low Pass:** A three-position switch for each channel located on the back panel below the input and output modules. Switchable among settings for Flat, 80 Hz and100 Hz. Filter rolloff is 24-dB per octave.

**High Pass:** A four-position switch for each channel located on the back panel below the input and output modules. Switchable among settings for Flat, 30 Hz, 40 Hz and 50 Hz. Filter rolloff is 18-dB per octave.

## Indicators

**Signal:** A green LED for each channel which flashes when a very low-level signal (>–40 dBm) is present at input. May be used for troubleshooting cable runs.

**Clip:** A red LED for each channel which turns on when distortion becomes audible in the amplifier output.

**Fault:** Normally off, this red indicator will blink under five different conditions:

1. When the amplifier is first powered up, until the unit is ready for operation.
2. If the heatsinks reach a temperature above normal working limits.
3. If the transformer thermal protection circuit is activated.
4. If amplifier output wires develop a short-circuit.
5. If the amplifier output stage becomes non-operational.
6. If there is a problem elsewhere in the amplifier.

This circuit may be monitored remotely by plugging a simple switching circuit using an LED or other signaling device into the back-panel RJ-11 (Fault) jack. Under some conditions, the output of the amplifier will be muted.

**Power:** A green LED that turns on when the amplifier has been turned on and has power.

## Input/Output

**Input Connector (standard module):** One Neutrik® Combo connector for each channel which features a balanced ¼-inch (6.35-mm) phone jack and a 3-pin female XLR connector, in parallel with a barrier strip termination.

**Input Stage:** Input is electronically balanced and employs precision 1% resistors.

**Input Impedance:** Nominally 20 k ohms, balanced. Nominally 10 k ohms, unbalanced.

**Input Sensitivity:** 0.775 volts or 1.4 volts for standard 1-kHz power, or fixed 26-dB gain.

**Output Connectors:** Three options available: Four (4) Neutrik® Speakon® NL4MP (mates with NL4FC) output connectors; (2) 5-way binding posts in parallel with two (2) Speakon® connectors; or barrier strip outputs in parallel with two (2) 5-way binding posts.

**Output Signal,**

**Stereo:** Unbalanced, two-channel;

Bridge-Mono:Balanced, single-channel. Channel 1 controls are active; Channel 2 should be turned down.

**Wiring Configuration:** (see Figure: 2.2).

## Protection

CE 4000 amplifiers are protected against shorted, open or mismatched loads; overloaded power supplies; excessive temperature, chain destruction phenomena, input overload damage and high-frequency blowups. They also protect loudspeakers from input/output DC, large or dangerous DC offsets and turn-on/turn-off transients.

**Construction**

Rugged steel chassis is formed into a durable package any stagehand could love. Coated with environmentally friendly powder for long life and ease of maintenance.

**Cooling:** Three-speed proportional speed fan.

**Dimensions:** EIA Standard 19-inch rack mount width (EIA RS-310-B), 5.25-inch (13.34-cm) height and 16.25-inch (36.56-cm) depth with additional 1-inch rear rack ears.

**Weight:** The CE 4000 net weight is 33.3 pounds (15.1 kg). Shipping weight is 39.3 pounds.

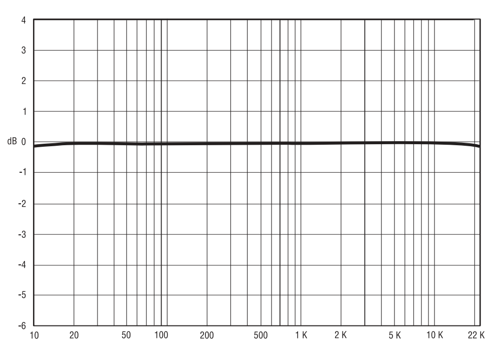



*Figure 2.1 Typical Frequency Response*

| OUTPUT ASSIGNMENT | | | |
|---|---|---|---|
| PIN | CH | PIN | CH |
| 1+ | 2 | 1+ | 1 |
| 1- | 2 | 1- | 1 |
| 2+ | | 2+ | 2 |
| 2- | | 2- | 2 |
| CH-2 | | CH-1 | |

*Figure 2.2 Output Pin Assignments*

# 3 Theory of Operation

**WARNING:** All voltages on the primary side of the flyback or bridge isolation transformers are not referenced to ground. They are referenced to the mains. When measuring these voltages with mains voltage applied, always use an isolation transformer to provide the mains voltage (and tie SMPSREF to signal ground) or use an isolated differential probe.

## 3.1 Audio Signal Path

For the sake of simplicity, only channel one of the audio signal path is described.

### 3.1.1 Input Stage

Signal is presented to the CE4000 through one of three connectors when using the standard input module. Each channel is outfitted with a balanced XLR / phone jack, and a barrier strip. These connectors are wired in parallel, which allows daisy chaining when needed. The incoming shield is tied to ground through an 82-Ohm resistor (R607) in parallel with a 0.1uF cap (C605) for the purpose of inhibiting ground loop circulating currents and RFI protection. The signal is then converted from balanced to unbalanced in the Balanced Input Stage where it receives further RFI protection. Input impedance is 20k Ohm balanced and 10k Ohm unbalanced. Signal then flows into the Variable Gain Stage where the front panel level controls are allowed to affect the gain.

The CE4000 amplifier comes with three input sensitivity selections: 0.775V, 1.4V, and fixed 26dB gain set by a switch on the Bridge/Fault/Gain (BFG) PWA. With the gain switch (S1) in the 0.775V position, R6 sets the gain while in the 1.4V position R5 in parallel with R6 set the gain. In the 26dB position, R4 in parallel with R6 set the gain. The signal is then put under the control of a full-time compressor circuit comprised of a symmetrical window detector, a buffer amplifier, and the gating op-amp which uses several small components to set the compressor's attack and decay characteristics. These components are found on the large main PWA. The actual compressing is accomplished by an opto-isolator (U1) on the BFG PWA that affects the gain in the signal path.

The signal then is passed through a series of switchable filters that allow the signal to be low pass and high pass filtered at various frequencies. The switches are located at the back panel. The low pass filter is a fourth-order Linkwitz-Riley type and the high pass filter is a third-order Butterworth type. These switches (S3 for the low pass and S5 for the high pass) and their necessary circuitry are found on the BFG PWA.

Inherent in all PWM amplifiers is a rise in gain at higher frequencies. Because of this, a 32 kHz 7th-order Gaussian low pass filter has been included in the input stage of the CE4000 (on the main PWA). The Gaussian filter-type is unique in that it has minimal ringing and excellent phase response so even a high-order filter such as this one does not adversely affect the sonic excellence of the product. U111-A, -B, -C and –D comprise this filter while U110-B and R178 form the gain calibration stage for this 7th order filter.

### 3.1.2 Error Amplifier

The signal next enters the main amplifier error amp (U100-C) where it is mixed with a small portion of the output voltage and current in such a way as to control the amplifier's overall output performance. From the error amplifier, the signal is divided and fed to the modulator. Since the modulator circuit is balanced, the drive signal for the positive modulator is inverted by U100-D.

### 3.1.3 Modulator

U101 and U103 are high-speed differential comparators. U101 is the positive comparator and U103 is the negative comparator. The comparator section has two outputs: inverting and non-inverting. The output is therefore balanced. The audio signal is applied to the inverting input of both differential comparators (with the positive modulator receiving the audio 180 degrees out of phase from the negative modulator). The 250 kHz triangle wave (described below) is applied to the non-inverting input of both differential comparators. With no audio signal, the bipolar triangle wave is therefore compared to a zero-volt signal and this results in a 250 kHz square wave pulse train that is passed to the NAND gate section of the differential comparator.

Each NAND gate has two inputs: the modulated signal from the high speed comparator section and the current limiter detect signal from U106-A. In the event of over-current, the current limiter signal is shut off disabling the NAND gates. This results in no

pulses exiting the comparators long enough to keep the current at an acceptable level.

If there is no current-limiting action, the balanced output of U101 forms the positive portion of the output waveform (Vp). The output of U103 is also balanced and forms the negative portion of the output waveform (Vn). These two balanced signal lines are routed to the output stage drivers, U119 and U123. If an audio signal is present at the inputs of the modulators, the triangle wave will be compared to a varying signal at the comparators and the outputs of the NAND gates will be a 250 kHz pulse train in which the widths of the pulses vary with the audio amplitude.

This operation is described as Pulse Width Modulation (PWM), as used in the BCA amplifier.

### 3.1.4 Triangle Generator

The 250 kHz triangle wave has its origins from the 4MHz generator (clock generation is described in the power supply section). After U224-A divides the 500kHz square wave down to 250 kHz, U105 converts the signal from a 0V-5V square wave to a –5V to +5V triangle wave that is extremely accurate. R171, C159, C153, C154, R168, and R169 provide the feedback loop to the linear IC U105. The potentiometer R170 allows the triangle wave to be DC offset in order to change the overlap/underlap characteristics of the output stage. Overlap/underlap is analogous to the bias adjustment made in linear output stages but it does not require a temperature sense to prevent thermal runaway. The output of U105 is routed to the non-inverting inputs of the modulators.

A note on the triangle generator for channel two: Before the frequency is divided down by two, the 500 kHz clock is inverted by U106-B. This effectively shifts the channel two triangle wave 90 degrees from that of channel one.

### 3.1.5 Output

The PWM modulated 250 kHz signals exit the modulators and enter the output stage via optocouplers U119 (Vp) and U123 (Vn). These optocouplers give electrical isolation from the low voltage circuitry to the high voltage output circuitry. The output of U119 and U123 are then sent to the output MOSFET drivers.

U120 and U121 are dual inverting high-speed drivers designed to interface low current digital circuitry (U119 and U123) with power MOSFETs (also abbreviated FETs). U120 and U121 are used to drive the gates of the output FETs (Q106-Q113).

In order to produce gate drive power to the drivers, a floating supply is generated for the Vp side. This supply uses U124-A and U124-B to divide the 500kHz clock down to 125 kHz. The half-bridge driver U22 uses this 125 kHz clock to control the high-side and low-side FETs in the dual FET IC U23 so that the output of U23 is alternately connected to +15VPS and ground . The rate of current rise is kept in control by the inductance of transformer T101. The end result is that the output of U23 is a square wave of 15V amplitude and approximately 50% duty cycle that is used as the primary excitation for the transformers. The transformer provides the required isolation and the secondary AC is converted back to DC by diodes D131 and D132 and filter capacitors C316-C319. The Vn side receives gate driver power from the flyback PWA (see below) and this power is referenced to the –Vcc rail.

We pause now for a qualitative description of output stage operation (refer to Figure 4.1). All parts to the left of “Iout” are positive or “p” side parts and all parts to the right of “Iout” are negative or “n” side parts. The switches Swp and Swn are analogous to the FETs. Quiescent operation will be considered first. At the start of a switching cycle Swp and Swn are both turned on. Current flows from +Vcc, through Swp, through Lp, through Ln, through Swn, and down to –Vcc. The current rises at a controlled rate in the Lp and Ln inductors (see the current diagram to the right in Figure 4.1). Halfway through the cycle, the switches turn off but the inductors have reached a certain current flow (the peaks on the diagram) and now must continue pushing current in the same direction. The current continues to flow in the same direction through the inductors but comes through the diodes because the switches are open. Specifically, current flows from –Vcc through D1, through Lp, through Ln, through D2, and to +Vcc while ramping down. At quiescent, the Lp and Ln currents cancel so the net voltage developed at Iout across the capacitor is zero. For positive voltage output, Swp is left on longer than Swn and for a negative output voltage, the opposite occurs. Note that for any output voltage, the “on” time of both switches will overlap, even if one is on longer than the other.

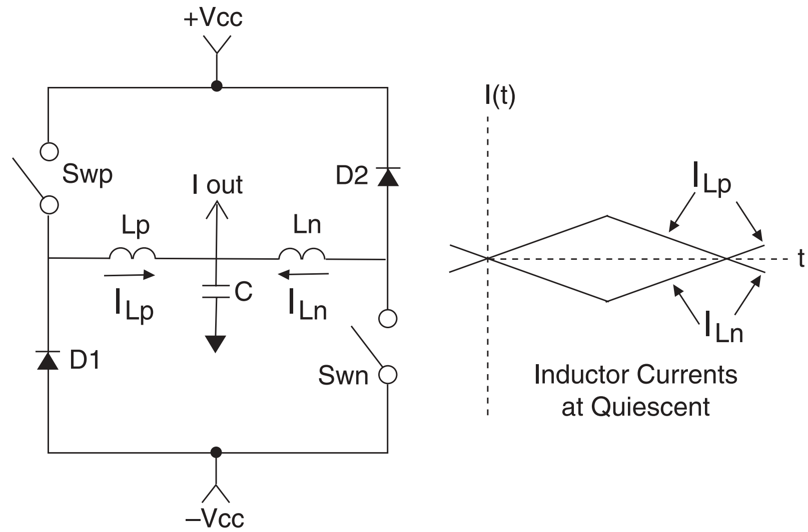



*Figure 4.1 BCA Operation*

Now back to the description of output circuit flow: after the FETs, the signal is then routed to the BCA filter inductors (Lp and Ln) and the current sense resistors (R383/R361 and R384/R362). The combining point (B1) is then sent to the Output Filter.

With no audio modulation, the PWM pulse train that is sent to the gates of each set of FETs is the same and the duty cycle is approximately 50%. This means that for no audio input, the positive FETs (Q106, Q107, Q110 and Q111) turn on and off at the same time as the negative FETs (Q108, Q109, Q112, Q113. As mentioned before, the Lp and Ln inductors control the rate of rise of the current during this time so that this does not act like a short during the couple of microseconds that they are on. The time that the FETs are on ramps current up in the inductors which stores energy in them. This energy is released through the diodes (D140-D143) when the FETs are turned off. The Vp and Vn nodes swing between –Vcc and +Vcc with a duty cycle of approximately 50%.

Operating the output stage in this way causes the current in the Lp and Ln inductors to completely cancel at the B1 node. This drastically reduces the filtering requirements necessary after the output stage.

If an audio signal is present at the input of the amplifier, the widths of the pulses at Vp and Vn change but the amplitude of the pulses stays at 2 * Vcc. Positive audio signals will cause the positive side of the output stage to be on more than 50% of the time while the negative side will be on less than 50% of the time. The total “on-time” will add to approximately 100%. Also, the on-time of the two polarities will overlap so that when the negative side is on, the positive side is also. For negative-going signals, the action is reversed (swap positive and negative). The result at the summing junction B1 is an amplified version of the input signal, with some noise superimposed on it. The B1 signal is then routed to the Output Filter.

### 3.1.6 Output Filter

The output filter is made up of three individual filters: a 250 kHz filter (L101/C128), a 500 kHz filter (L102/C131/C397), and a final 250 kHz filter (L104/C136-C139). The signal passes through these three filters to eliminate both residual 500 kHz and 250 kHz signals. The audio signal is then connected to the output PWA through buss bars.

## 3.2 Protection and Control Circuitry

### 3.2.1 Current Monitor

Audio output current levels are monitored by the use of transformer T100. A small primary winding is in series with the output current and the secondary develops a voltage across R140 proportional to the output current of the amplifier. This output current information is used for two purposes:

1. Negative feedback
2. Current feedback information for the modulators.

### 3.2.2 Current Limiter

To prevent excessive output current, the CE4000 amplifier incorporates a current limiting protection circuit. The current sense resistors (R383/R361 and R384/R362) in series with the Lp and Ln inductors sense the output current. The voltage dropped across these two resistors is sent back to U108-A and U108-B. D109, R163, and R165 set the voltage reference for U108-B. D109, R164, and R167 set the voltage reference for U108-A. Due to the circuit configuration, only the reference at U108-5 will show a voltage and it is set to 0.48VDC referenced to node B1 with no signal input.

The outputs of the comparators are normally open but since these two outputs are connected together and to U107-2 and through R161 to B1+15V, the level sits at one diode drop above B1 or +0.6VDC. Pin 3 of U107 is tied to B1. The output of U107 is inverting so normally the output is low. U106-A inverts the output and is used to turn the modulators on and off. Overall, if the outputs of U108 go low, the output of U106-A goes low to turn off the modulatorsU101 and U103.

The second input to U106-A is from the protection circuitry and is used to turn off the modulators (U101 and U103) for various reasons (see Section 4.2.4).

### 3.2.3 Display Circuitry

Just after the input signal is converted from balanced to unbalanced, it is routed to the signal detection circuit. With a signal approximately 45-dB below that required for full output, the Signal LED will illuminate. Note that this LED will indicate whether signal is present at the amplifier but not whether it is being output from the amplifier.

The compressor circuit is initiated by either the Input-Output Comparator (IOC) circuit or by the Thermal Limit Control (TLC) circuit. The IOC circuit, composed of Q100, Q101, R121-R126, and D105-D106, uses the error signal from the error amplifier (U100-C). If the error amplifier is unable to correct for non-linear behavior in the amplifier, the error amplifier (U100-C) will generate a voltage spike of approximately ±7V. The IOC circuit clamps that voltage to the ±7V limit (normally it would go to the op-amp's rails) and also generates a voltage greater than the window of ±0.3V that is detected by U117-C and U117-B. Depending on the polarity, U117-C or U117-B will go low during an IOC event. If this happens, U125-D goes high and Q103 turns on. Q103 turns on the compressor opto (located on the BFG PWA) which compresses the input signal and reduces the peak voltage the amplifier is required to produce. U125-D going high will activate the "Clip" LED, but only if the IOC condition occurs long enough to be audible. C312 and R413 set the conditions at which the "Clip" LED illuminates. Details of the generation of the TLC signal are discussed in the next section.

The "Fault" LED indicates any condition when there is a reason for the modulators to be turned off. When activated, the Fault LED will flash at approximately 3Hz.

The "Enable" LED is turned on by the presence of the +15V supply (see Section 4.3.3).

### 3.2.4 Control Circuitry

After the low and high voltage rails are powered up and stable, the C354 timing capacitor, along with U114-C and associated circuitry holds the enable line (the net is called "Timing Cap 1") low for approximately four seconds. If Timing Cap 1 is low, U115-A stays low which causes Q115 to be high. This is input to U106-A that is inverted on the output and holds the modulators off.

Several detectors affect the status of Timing Cap 1. U114-A, along with scaling resistors R309 and R310 pull the line low if +Vcc rises beyond a safe limit. In a like fashion, U213-A, R315, and R316 look at the –Vcc rail. U213-B with scaling resistors R320 and R319 determine if the high voltage rails are high enough to ensure proper operation. If a large amount of high frequency energy is being produced by the output stage (such as during a shorted load condition), U114-B with scaling resistors R311 and R312 and time delay cap C176 will pull Timing Cap 1 low. If the airflow is blocked or severely clogged and even the fan on high speed can not keep the amplifier cool, U115-D will pull Timing Cap 1 low. If Timing Cap 1 goes low, it also turns on Q1 on the BFG PWA, which causes U5's transistor to not conduct. U5 is connected to pins 2 and 5 of the modular jack J3 that allows for remote sensing of the amplifier's operating condition.

Special Negative Temperature Coefficient (NTC) resistors are attached to three heatsinks and the power transformer to tell the amplifier if action needs to be taken to reduce the temperature. RT1 and RT2

are attached to the amplifier output heatsinks (one per channel). R711 is attached to the primary side power supply heatsink and R713 is attached to the power transformer. The NTC sensors feed the fan control circuit. Normally, the fan runs at very low speed and R325, R42, R508, R509, R333, R334, and R86 limit the voltage applied to the fan. For medium speed, Q105 conducts, shorting out R333, R334, and R86. For high speed, Q104 also conducts which shorts out the other dropping resistors.

“TLC” is a feature that allows the amplifier to decrease the amount of power it is dissipating if the power devices or transformer are climbing towards an unsafe temperature. This circuit uses the NTC-derived voltage to control a varying power limiter. This circuit only comes into play if forcing the fan into high speed is not enough to keep the unit at a safe temperature. The TEMP IN signal is delivered to U125-A’s non-inverting input while a reference voltage is sent to its inverting input. U125-A scales and inverts the temperature signal while U125-B inverts this new signal. U112-B and U112-C compare the temperature information to the input signal amplitude. Normally, the output of U112-B&C is open collector but if limiting is required, this output is forced low and is sent to the compressor circuit as TLC 1.

The NTC voltages controlled by R339, R74, R712, and R714 respectively are diode-OR’d to U115-D. U115-D compares this voltage to a reference formed by R337 and R336 to determine if, as a last line of defense, Timing Cap 1 should be pulled low until the amplifier cools off.

In the rare event that DC is produced by the output stage, U113-C and U113-D form a window detector whose output goes low in that condition. This signal is latched on permanently by U113-A and U113-B and R304. This signal, which is high for a fault condition, is sent to U115-4 and will also turn off the modulators. To reset this latch, the power must by cycled to the amplifier.

## 3.3 Power Supply Operation

### 3.3.1 Power Entry and Filtering

AC power enters the amplifier through a power cord equipped with an IEC (unplugable) connector. It then passes through the EMI filter to remove switching noise caused by the amplifier and power supply. The parts on the primary side of the power distribution circuitry (including those on the EMI PWA) have all met stringent regulatory safety requirements and, if they fail, must be replaced by the correct part as called out in the PWA documentation.

### 3.3.2 Fuse

In the rare event that a power supply failure draws excessive current from the mains and the power supply itself cannot reduce the current by shutting down the controllers, a fuse will blow on the EMI filter PWA. This fuse is accessible through a slot in the filter shield and is the same value regardless of the mains voltage that the amplifier is used with. Always replace the fuse with the same type and rating!

### 3.3.3 Low-Voltage Supplies (Flyback)

Several things happen in parallel when the power switch is first turned on. The line current flows through PTCs R1 and R2 to prevent high inrush currents. The current is then rectified by D1 and flows through L1 and D2 to charge energy reserve caps C1 and C6. As soon as sufficient voltage is detected at the “Vbulk” node, the low voltage “flyback PWA” supply starts running. It is a buck supply that self-starts by free running (not synchronized to any clock) at about 80 kHz. This supply produces all of the required low voltage supplies except the Vp gate drive power mentioned above in the “Output” section. All of the secondary supplies are isolated from the primary by a transformer. After the low voltage supplies are up and running, the clock circuitry runs and generates a synchronizing signal for the flyback PWA that overrides the free-running circuit and forces the flyback to run at 125 kHz.

### 3.3.4 Turn-On Control Circuitry

As mentioned in the previous section, while C1 and C6 are being charged through the PTCs, Q11 is held off and C47 charges up in approximately two seconds. U10-A’s output then goes high which turns Q8 on forcing U13-B’s output high which turns on the relay via Q9 and shorts out the PTCs and allows full line voltage to get to C1 and C6. As Q8 is turning on, Q3 turns off causesing C24 to discharge through R9 and, after about 15mS, forces U13-A’s output low which turns Q14 and Q15 off. When Q14 and Q15 are on, they ground the soft-start pins of controllers U2 and U4 and this prevents them from running.

Three conditions can prevent the node at U10-A’s output from going high. U24-A will hold this node low through D45 if there is a fault detected by the audio output stage or if the power supply detects an

overcurrent condition. The circuit of U24-A and U24-B will latch if either of these conditions is detected. U11-B will hold the node low if U11-A detects a low line voltage condition (about 60VAC) such as a brownout.

### 3.3.5 PFC Boost Stage

After the relay closes and the soft-start pins are opened, the PFC controller, U2, starts to run. The GDRV pin (20) on U2 controls gate drivers U9 and U26 which drive the gates of Q1 and Q2 in a boost mode configuration. Several inputs to the controller affect its operation. The controller uses feedback from the "V BULK" node, compensated by R24, C314, and C14 and fed into U2-13 and U2-14 to maintain approximately 400VDC at this node. The feedback loop is quite slow, in the "10's of Hz" range, unlike that of a power amplifier, and so depends on the large energy reserve capacitors to supply impulsive power but overall, the voltage is regulated to 400VDC regardless of the line voltage or the load current. Note that 400VDC is higher than the highest expected peak line voltage so the PFC stage is always boosting to a known voltage. The PFC controller also looks at the incoming "RECT AC+" voltage and makes sure that the current the boost stage draws is in phase and shaped like the voltage. This makes the amplifier look like a resistor to the AC mains, and allows it to pass certain regulatory requirements. Pin U2-3 looks at the incoming line voltage to make sure it is within safe limits and if not, shuts down the FETs. R36 sets the current limit of the PFC stage to approximately 47Amps peak. Using all of these inputs, U2 causes the boost stage to take small amounts of current from the line 62,500 times each second.

### 3.3.6 Bridge Isolation Stage

The 400VDC is then "bucked" down to the ground referenced rails (+Vcc and –Vcc) needed by the audio amplifier. Controller U4, through gate drivers U17, U31, U29, and U32 and transformers T2 and T3, turns Q4 and Q7 on at the same time, then turns Q4 and Q7 off and Q5 and Q6 on at the same time, causing T1 to convert voltage and current to its secondary. This process is repeated so that any two of the four FETs are on about 85% of the time. U4 runs at 125kHz (the 250kHz sync signal is divided down within the IC). Diodes D3-D6 and capacitors C7-C8 rectify the secondary AC to DC. Transformer T1 provides isolation between primary (mains) and secondary (ground referenced) power for safety. Controller U4 is called a "Phase-Shifted Bridge Controller" because as its soft-start pin is released and U4-19 climbs in voltage (U4-19 is a current source), the controller slowly allows the power transfer to ramp up by phase-shifting the power FETs properly. This stage is referred to as a "buck" stage (as mentioned previously), an "isolation" stage for its transformer action, and a "bridge" stage since the four FETs form a full bridge topology.

The AC primary current travelling through the transformer is also passed through a small current transformer in order to sense the current. This AC signal is passed through diodes D9-D10 and D12-D13 and cap C26 to convert it to DC. If the bridge current is high and remains high for several seconds (such as when the amplifier is producing high voltage, high current sine waves), the average power limiter will tell the audio amplifier to invoke the compressor and slowly reduce the power output. The DC signal from C26 is also compared to a reference in the Over Current Detect Circuit and will latch both U2 and U4 off if currents above 50-55 Amps are detected in the bridge primary. The power to the amplifier must be cycled to reset this latch.

# 4 Maintenance

## 4.1 Where to Begin

Effective repair involves three basic steps:

1) Determine the symptom(s) of the problem
2) Identify the cause(s) of the symptom(s)
3) Repair the unit to eliminate the cause(s).

To determine the symptoms, you will want to get as much information from the user as possible. Get as much information as you can about the system and how the amplifier is used. There is always the possibility that the problem will show up only if used in a specific way.

Once you have all the information about the symptom(s), it is time to inspect the amplifier. A careful visual inspection is valuable for most problems, which you may encounter. To inspect the inside of the amplifier remove the cover as described in Section 4.3.1.

Begin the inspection by looking for anything, which appears abnormal, like loose connectors, broken wires and burnt or visibly damaged components. Inspect the printed circuit assemblies for broken traces and loose connections. Be thorough. The time you spend visually inspecting the amp is time well spent.

## 4.2 Surface Mount Technology

CE Series amplifiers use surface mount technology in their design. There are several advantages to using surface mount technology (SMT), including; (1) surface mount devices (SMDs) are much smaller, and are mounted to the surface of the board, so more components can be placed on the board. (2) Components can be attached to both sides of the board, allowing the board size to be reduced. (3) SMT boards are lighter and provide better electrical performance and signal speed.

Of course, there are also things to watch out for with SMT. (1) The placement of the components on the board, not through a hole, makes the components and the solder joint more susceptible to damage. (2) Rework of SMDs can often require specialized tools, equipment, or training. (3) SMDs are very small and can be difficult to handle, see, and identify.

Remember that on the CE-Series amplifiers, the SMDs on the bottom side of the main module are GLUED. Take care not to damage components while trying to remove them from the surface of the module.

## 4.3 Disassembly for Inspection & Service

The extent of disassembly required will depend upon the extent of inspection and service required.

**Note: To avoid the risk of electric shock, turn off and unplug the amplifier from the ac power outlet before disassembly or reassembly is attempted.**

### 4.3.1 Top Cover Removal

To remove the cover of the amplifier you will need a #15 torx bit (TX15). After the cover is removed, and before any internal cables are disconnected, **discharge the supplies**. See Section 4.3.2.

1. Turn the amplifier on its bottom on your workbench. The only access to the inside of the amplifier is the top cover.
2. Using the TX15 bit, Loosen the 8 screws around the perimeter of the cover.
3. The cover lifts up and back after the screws are removed.

### 4.3.2 Power Supply Discharge

Before any connectors and PWAs (Printed Wire Assemblies, or circuit boards) are removed, the Power Supplies need to be discharged. Follow these simple steps.

1. Make sure the amplifier is unplugged from the AC power source.
2. Locate L6 and L9 on the Main PWA (see Figure 4.3).

**WARNING**

**Amplifier components are ESD sensitive. When servicing the amplifier, the technician must have approved ESD protection. Proper grounding straps and test equipment are required. Failure to use proper protection will result in component failure.**

**WARNING**

**Before unplugging or plugging in any connectors or wires in the amplifier, discharge the power supplies. See section 4.3.2 for instructions. Failure to do so will result in circuit failure.**

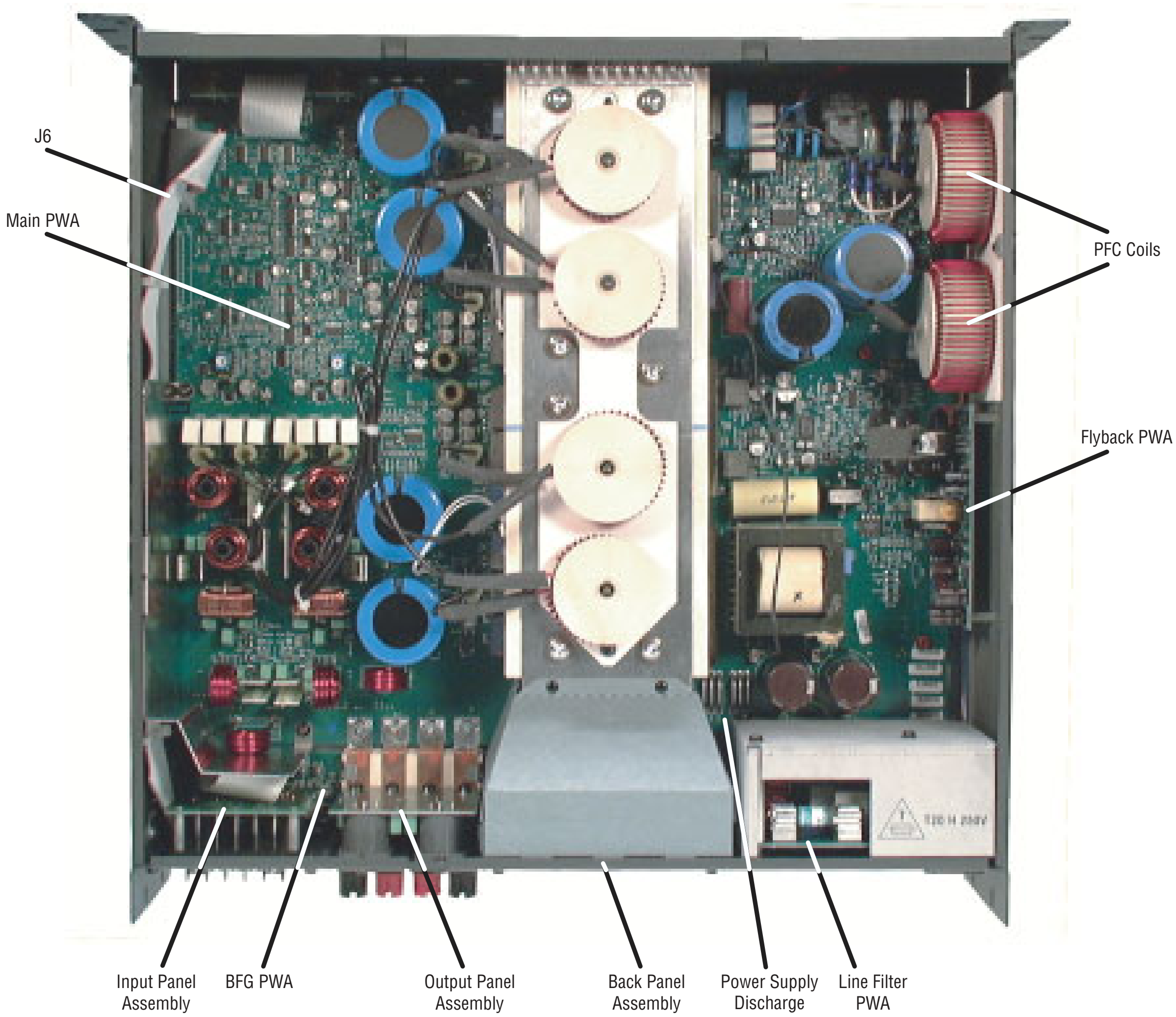



*Figure 4.1 CE 4000 Top View A*

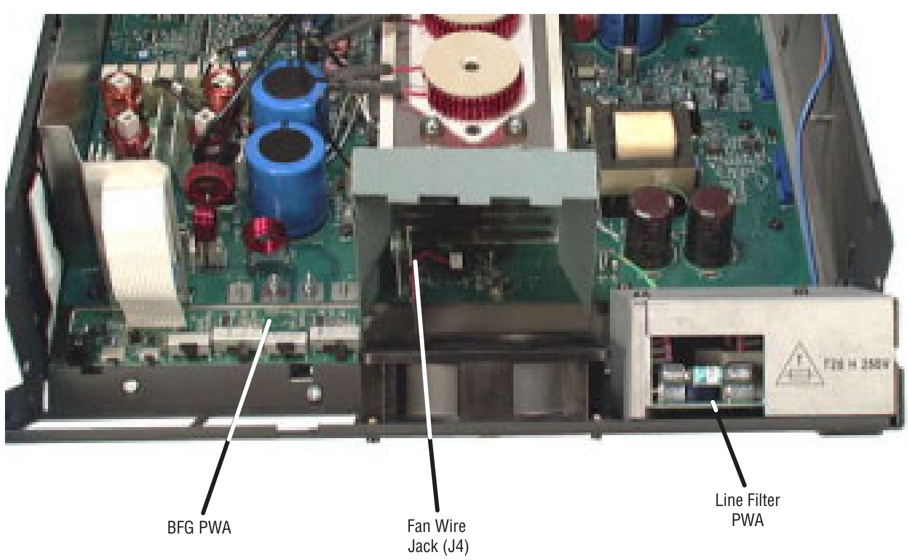



*Figure 4.2 CE 4000 Top View B*

3. Connect a 600 Ohm 10 watt resistor from L6 to L9. Be careful not to touch the leads with your fingers, as ±100V could be present at this point.

4. Wait 30 seconds before removing the resistor.

**Caution: the ten-watt resistor will become hot as the power supplies discharge.**

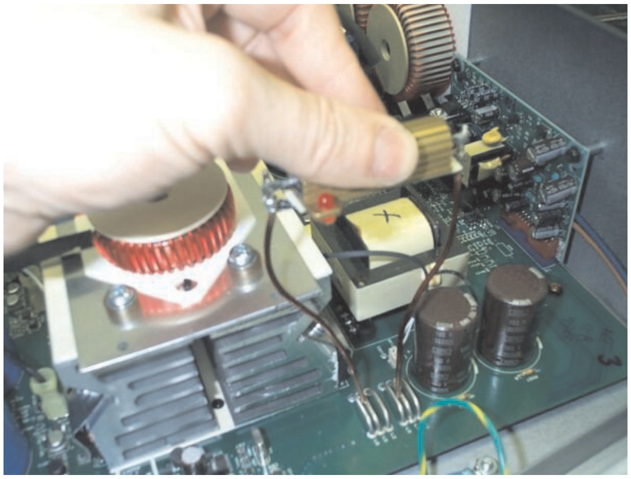


*Figure 4.3 Power Supply Discharge*

### 4.3.3 Flyback Supply PWA Removal

1. **Follow the instructions in Section 4.3.2. Supply discharge is necessary to avoid circuit damage.**

2. Remove the two screws and two plastic washers securing the Flyback PWA to the Chassis (see Figure 4.4).

3. Release the retention latches on the connectors located at the bottom of the Flyback PWA.

4. Lift the Flyback PWA straight up and out of the chassis.

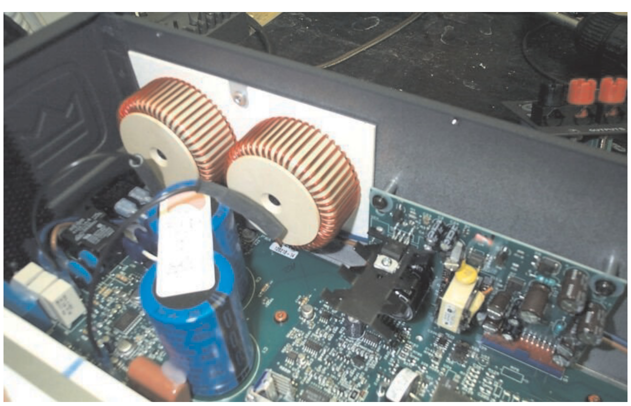


*Figure 4.4 Flyback PWA and PFC Coils*

### 4.3.4 Input Module (SST) Removal

1. Remove the four Phillips-head screws that secure the SST to the chassis.

2. Gently slide the SST out to expose the ribbon cable connector.

3. Release the retention latch and disconnect the ribbon cable from the SST Module and finish by removing the SST from the chassis.

### 4.3.5 Output Panel Removal

1. Remove the four nuts on the Main PWA that hold the output buss bars to the Main PWA (see Figure 4.5).

2. Remove the four T15 screws that secure the output panel to the back panel.

3. Slide the output panel up and out of the back of the amplifier.

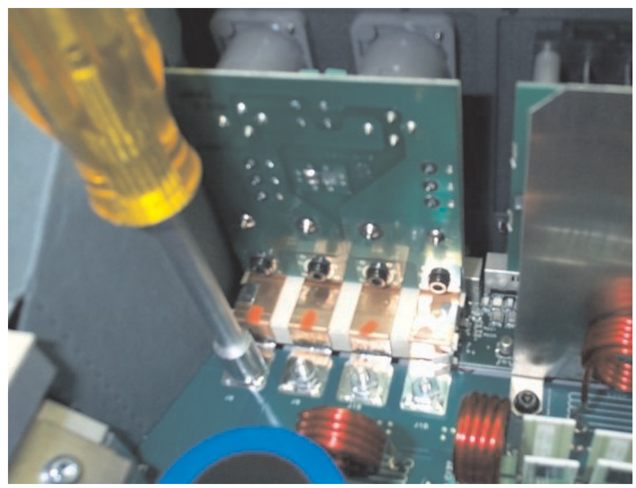


*Figure 4.5 Output Bus Bars*

### 4.3.6 Back Panel Assembly Removal

The back panel assembly is removed to access the BFG, Main and Filter PWAs.

1. **Follow the instructions in Section 4.3.2. Supply discharge is necessary to avoid circuit damage.**

2. Remove the SST module (Section 4.3.4).

3. Remove the output panel (Section 4.3.5).

4. Disconnect the Brown and Blue primary wires from the Main PWA. Slide both wires out from underneath Flyback PWA.

5. Remove the 8 Flathead T15 screws on the side and bottom of chassis that secure the back panel to the chassis. Slide the back panel partially out and away from the amplifier, then unplug the fan wires from the Main PWA at J4 (see Figure 4.3).

6. Disconnect the safety ground wire attaching the back panel to the chassis.

7. Pull the back panel assembly the rest of the way out of the back of the amplifier.

### 4.3.7 Line Filter PWA Removal

1. Remove the back panel assembly (see Section 4.3.6).

2. Remove the four T15 screws that secure the shield.

3. Disconnect the faston connectors before removing the PWA.

4. Remove the four standoffs that hold the Line Filter PWA to the back panel assembly.

5. Remove the Line Filter PWA.

### 4.3.8 BFG PWA Removal

1. Remove the back panel assembly (see Section 4.3.6).

2. Remove the T15 flathead screw that holds the metal cable shield to the chassis.

3. Remove the two T15 screws that hold the shield to the Main PWA.

4. Remove the metal shield out of the chassis.

5. Disconnect the ribbon cable from the Main PWA at J6. (see Figure 4.2)

6. Remove the tie-wraps securing the ribbon cables.

7. Remove the two T15 screws securing the BFG PWA to the chassis.

8. Lift the BFG PWA straight up from the chassis.

### 4.3.9 Main PWA Removal

1. Remove the FlyBack PWA (see Section 4.3.3).

2. Remove the back panel assembly (see Section 4.3.6).

3. Disconnect the PFC coils and remove them from the side panel of the chassis.

4. Remove the T15 flathead screw that holds the metal cable shield to the chassis.

5. Remove the two T15 screws that hold the shield to the Main PWA.

6. Remove the metal shield out of the chassis.

7. Remove the knobs from the front panel.

8. Remove the nuts that secure the level controls to the front panel.

9. Slide the level controls into the chassis.

10. Remove the air shroud from the Main PWA heatsink.

11. Unplug the power switch wires at J26, J27, J28 and J29 on the Main PWA.

12. Remove the seven screws that secure the heatsink assembly and coil assembly to the chassis.

13. Remove the seven orange- or blue-painted screws that secure the Main PWA assembly to the chassis.

14. Holding the heatsinks, lift and slide the Main PWA straight up and backwards out of the chassis.

## 4.4 Troubleshooting

As mentioned earlier, the three steps to effective repair are: Determine the symptoms; identify the cause of the symptoms; repair the unit to eliminate the cause.

Please troubleshoot based on the order listed below.

### 4.4.1 Troubleshooting Flyback Power Supply.

1. Nulls off the error amplifier output of channel 1 by placing a jumper between TP100 and TP104 (Jumper 1 in Figure 4.6).

2. Nulls off the error amplifier output of channel 2 by placing a jumper between TP200 and TP204 (Jumper 2 in Figure 4.6).

3. Defeat Undervoltage protection circuitry on BCA side by pulling TP248 to +15V (TP254) (Jumper 3 in Figure 4.6).

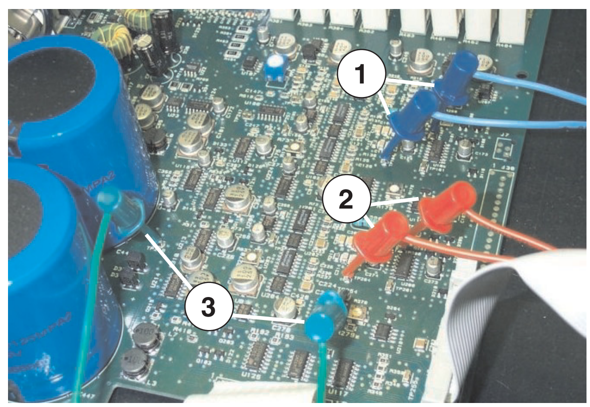



*Figure 4.6 Shorting Jumpers*

4. Defeat Brown-out effect protection circuitry by pulling TP249 to +15V (TP-6) with a jumper, as shown

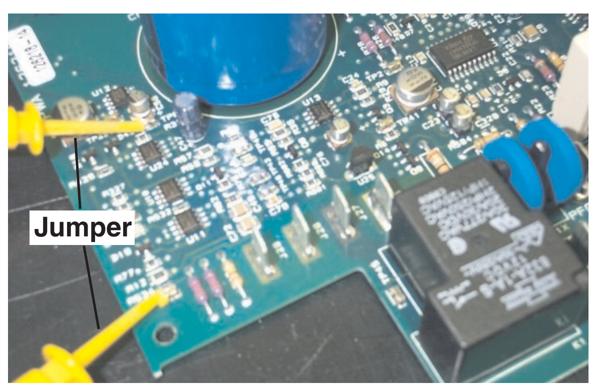



*Figure 4.7 Brown-Out Jumper*

5. Connect half wave rectified AC power flyback and power it up **through an isolation transformer** as shown in Figure 4.

**Warning: NOT using an isolation transformer in Step 5 can result in test equipment damage.**

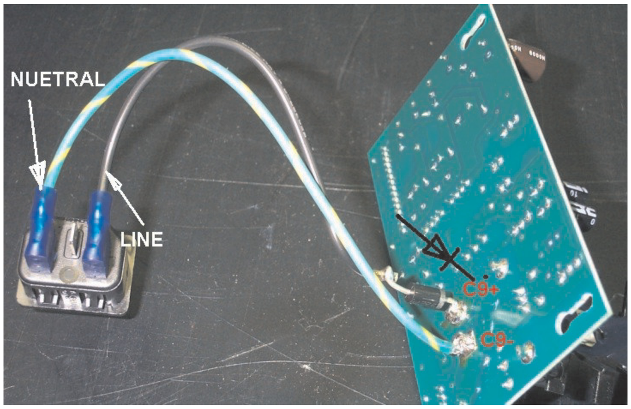



*Figure 4.8 Half-Wave Rectified Flyback*

6. Using a multimeter check DC supplies on power supply side. Confirm TP6, TP7 and TP8 = +15V, TP46 = +7.5V, TP252 =19.0V, U2 pin 11 = 5.1V, and TP256 and U14 pin 1 = 5.0V. All measurements should be made with respect to SMPS reference (TP2).

7. Using a multimeter check DC supplies on audio side. Confirm TP254 is +15V, TP255 is -15V and TP257 is 5.0V. All measurements should be made with respect to AGND (TP-105).

### 4.4.2 Troubleshooting Trianglewave Generator and BCA Output Stage.

1. Using an oscilloscope check audio side triangle waveforms at TP102 with respect to TP105 (see Figure 4.9).

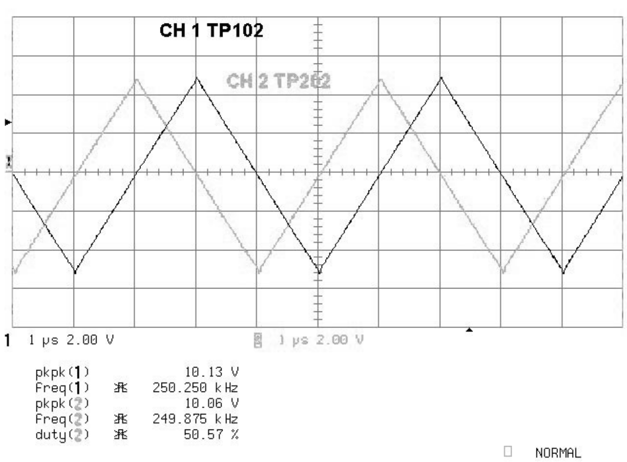



*Figure 4.9 Output Signal of Triangle-Wave Generator*

2. Using an oscilloscope check audio side triangle waveforms at TP202 with respect to TP205 (see Figure 4.9).

3. Using an oscilloscope check BCA output stage gate switching (see Figure 4.10). Probe at each gate drive resistor.

R360 for Q107 and Q110 (Figure 4.10) while R357 for Q108 and Q111 (Figure 4.11) of Vp Channel 1.

R365 for Q108 and Q112 (Figure 4.10) while R368 for Q109 and Q113 (Figure 4.11) of Vn Channel 1.

R460 for Q207 and Q210 (Figure 4.10) while R457 for Q208 and Q211 (Figure 4.11) of Vp Channel 2.

R465 for Q208 and Q212 (Figure 4.10) while R468 for Q209 and Q213 (Figure 4.11) of Vn Channel 2.

A total of four measurements for each channel, 2 for each Vp and Vn sides.

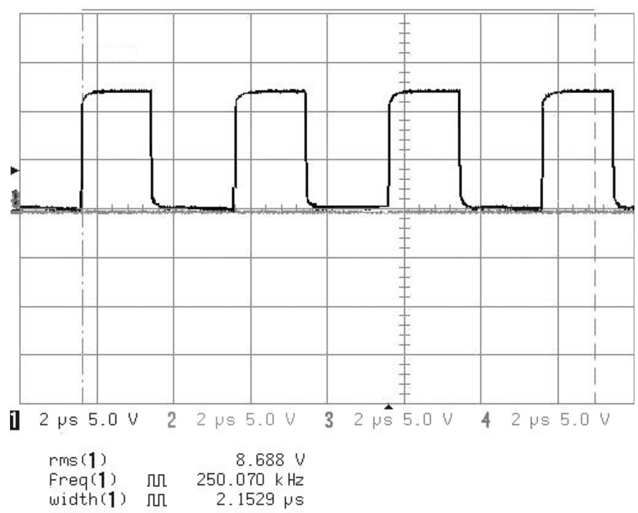



*Figure 4.10 Gate Switching, View A*

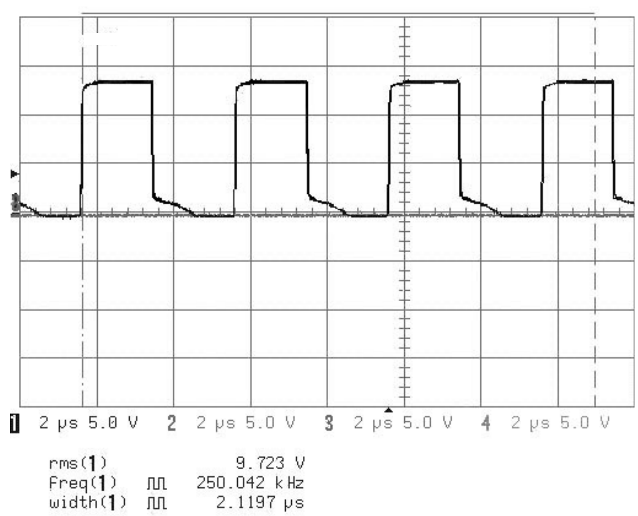



*Figure 4.11 Gate Switching, View B*

### 4.4.3 Troubleshooting Power Supply, PFC PWA and Full Bridge DC to DC Converter

1. Using an oscilloscope check power supply clocks at TP-253 and TP-12, as shown in Figure 4.12. All measurements are with respect to SMPS reference.

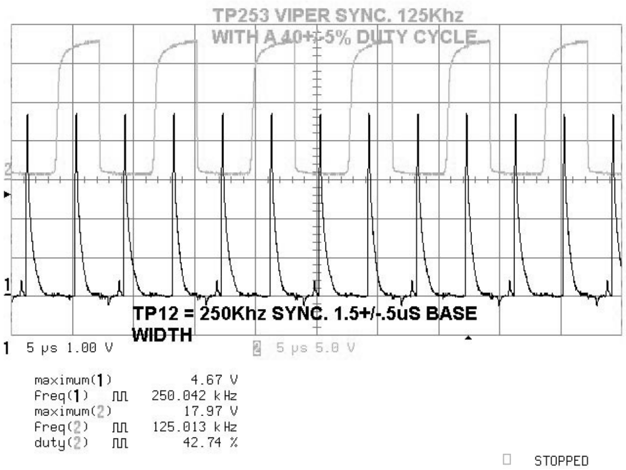



*Figure 4.12 Power Supply Clock*

2. Place jumper between J28 and J29 to simulate front panel switch on.

3. Remove/ bypass boost inductor L1 and using an external power supply apply 4VDC at J23.

4. Using an oscilloscope check PFC gate switching at TP-5 with respect to TP-2, as shown in Figure 4.13.

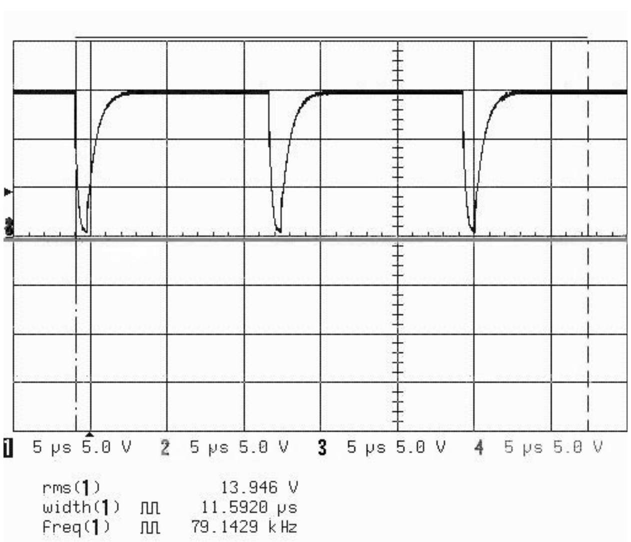



*Figure 4.13 PFC Gate Switching at 4VDC*

5. Using an external power supply apply 60VDC to J23 and verify that the frequency changes, as shown in Figure 4.14.

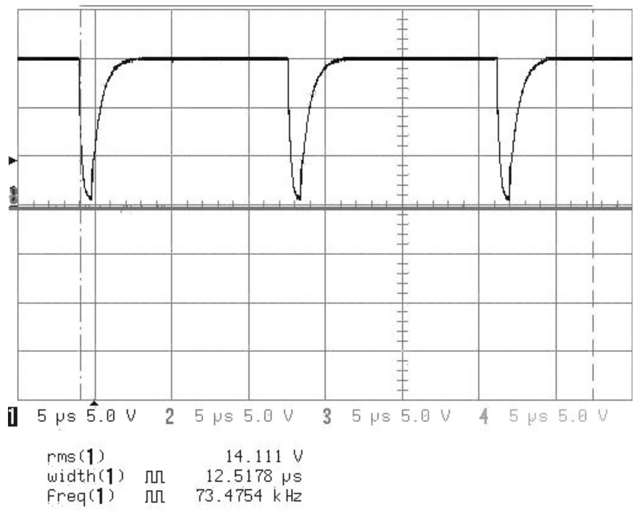



*Figure 4.14 PFC Gate Switching at 60VDC*

6. Using an oscilloscope check gate switching of the Full Bridge DC to DC Converter, as shown in Figure 4.15. Verify the phase shift at startup. Probe at TP-27, TP-29, TP-30 and TP-31. All measurements are with respect to SMPS reference.

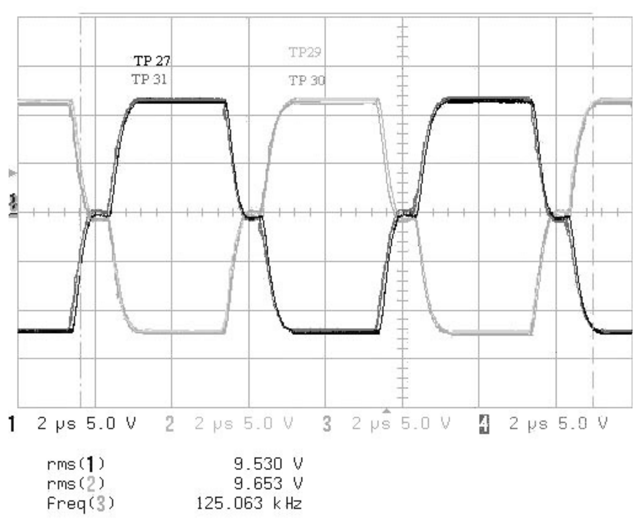



*Figure 4.15 Full-Bridge DC to DC Converter Gate Switching*

### 4.4.4 Identifying Symptoms

Why was the amplifier brought in for repair? Can you get it to malfunction again? Some problems can be intermittent and difficult to find.

Once you have identified and verified the symptoms, you can look for helpful information in Section 4.4.5 as to where the cause of the problem is located.

If you don't observe anything wrong with the amplifier, tactfully inquire how the owner used it and try to determine if it was misused or some other component in their system could have been at fault. Remember that the protection circuits in this amplifier will protect loudspeakers from problems caused upstream from the amplifier (DC protect).

If you lack sufficient information about the problem, and there aren't any obvious problems with the amplifier, skip to Section 4.6, the Electrical Checkout Procedures.

### 4.4.5 Identifying and Repairing the Cause

The first step in identifying the cause of the problem is always a visual inspection. Once the top cover is removed, and the supplies are discharged, look for loose connectors, broken wires, loose hardware, burnt components, or bad solder joints on the PC boards. Check both sides of the board.

Once the visual inspection is complete you may power up the unit. The best way to positively locate which PWA is at fault is to have a working PWA of each type on hand and plug them into the amplifier one at a time to see when the problem goes away.

The following Symptoms and Causes may help you determine which corrective action to take. We realize that this list is limited. Please read through the Theory chapter in this manual to better understand the function of each PWA. This will help you come to your own conclusion as to the location of the problem.

**Amp does not appear to power up. No Enable LED.**

First, check the power supply fuse (located on the Line Filter PWA). Check for faulty switch or faulty inductor connection in the EMI and Filter module. Also, make sure the AC line voltage is correct for the amplifier you are working on. Severely low AC line voltage could cause the amp to not power up. If both check out, then the amplifier is in a fault mode. Viper could be dead. The most likely trouble area is the Flyback PWA.

**The Fault LEDs on one or both channels are flashing.**

1. The Fault LEDs normally flash during turn-on delay. Wait for six seconds to see if the LED stops flashing.

2. One or more of the power supplies are out of tolerance or missing. Replace or troubleshoot the Flyback PWA. If this does not correct the problem, check for the 400 V Vboost by measuring from TP251 to TP50. If it is low, then troubleshoot the PFC boost stage. If 400 V is o.k., check the ±Vccs at L6 and L9. They should measure approximately 105 VDC to ground. If Vcc is low or missing, troubleshoot the Full Bridge DC to DC converter stage.

3. ±15 V supply is too low. Check the Flyback PWA.

4. DC is present on the Channel 1 or Channel 2 output terminals, usually caused by a bad MOSFET or diode in the amplifier's output stage.

5. The channel one heatsink is too hot. Verify the heatsink temperature is less than 80°C. The output heatsinks should be at earth ground. The SMPS reference heatsink is above ground, so **do not touch amplifier ground and the SMPS reference heatsink at the same time.**

6. The overvoltage sensor has been tripped. Measure the ±Vccs at L6 and L9. They should read less than 120 VDC referenced to ground.

7. Transformer T1 has exceeded its thermal limit. Replace T1. Replace R713.

**Signal LED is off and the Clip LED is on for either channel.**

1. Troubleshoot the appropriate channel. A Clip LED on generally means an output stage failure.

**Signal LED is on and the Clip LED is on for either channel.**

1. The amplifier channel is clipping. Reduce the input signal level

2. A short is present at the output. Check the output wiring.

**Output sounds distorted. Clip LED is off.**

1. The input stage is being overdriven. Reduce the input signal level.

2. There is a problem in the Input PWA. Replace or troubleshoot the Input PWA.

**Amplifier does not meet Output Power specification.**

1. The amplifier has reached thermal limits. Check for proper fan operation.

2. PFC boost stage is not functioning properly. Check for 400 VDC at TP-251 with respect to TP-50. Troubleshoot PFC boost stage if measurement is nonconforming.

**Amplifier does not meet Frequency Response specification.**

1. Make sure the output voltage does not exceed 45Vrms.

2. Check back panel filter switch positions.

3. Check BFG PWA highpass and lowpass circuitry.

4. Possible problem in the 32-kHz 7th-order Gaussian filter. Readjust R178 and R278 for channel 1 and 2

filter. Readjust R178 and R278 for channel 1 and 2 respectively to get the frequency response in spec. Troubleshoot and repair filter as necessary.

**Amplifier does not meet Voltage Gain specification.**

1. The gain of the amplifier is determined by the BFG PWA. Check the optocoupler for proper operation or replace the BFG PWA.

2. Check residual resistance of gain level potentiometers.

**Amplifier does not meet DC Output Offset specification.**

1. Possible problem on the Main PWA, and is likely a faulty U100/200 or a faulty MOSFET or diode in the output stage. Troubleshoot and repair as necessary.

2. Input PWA might be passing input signal DC components. Check for short capacitors in the Input PWA.

## 4.5 Required Test Equipment

Due to the complex circuitry utilized the CE 4000 amplifier, special calibration procedures and the correct test equipment are necessary to insure original factory specifications are achieved.

Figure 4.16 is list of test equipment needed to successfully service the amplifier. Recommended models are those used by Crown.

| Device | Requirements | Recommended Model |
|---|---|---|
| Oscilloscope | 500 MHz or greater | LeCroy 9354A |
| Distortion Analyzer | THD and IM measurements | Audio Precision ATS-1 |
| DC Power Suppies | 105 VDC with I-Limiting and<br>12-15 VDC with I-Limiting | Leader 760-3D (Qty. 2)<br>Leader 18-3D |
| Function Generator | | Hewlett-Packard HP 33120A |
| AC/DC volt meter | dB reading capability | Hewlett-Packard HP 34401A |
| Dummy Loads | 8 ohm, 600 watt, 4 ohm, 1,200 watt, and 2 ohm, 1,800 watt | |
| Isolation Transformer | 1:1 Primary to Secondary Turn Ratio | |

**Alternate oscilloscope choices: Tektronix TDS360 and HP HP54610B. The latter is a 500 MHz scope, which is needed to test newer BCA power supplies.**

*Figure 4.16 Required Test Equipment*

## 4.6 Electrical Checkout Procedures

The test procedures in this section are used to verify the operation of the amplifier. You may, however, find these tests helpful in troubleshooting a problem if the problem is not easily identified.

All tests assume that AC power is from 100-240 VAC ±10%.

During each test, it is assumed that the following conditions are set on the amplifier unless otherwise noted:

- Level controls fully clockwise.
- Bridge Output switch off.
- Input Sensitivity of both channels set at 26 dB.
- Filter settings in the back panel are set to FLAT.

### 4.6.1 Quiescent AC Power Draw

**Spec**:130 watts maximum quiescent.

**Procedure:** With no load connected to the amplifier, turn on the amplifier. Measure AC power draw. It should be less than 130 watts.

### 4.6.2 Gain Switches

**Spec:** 0.775V, 1.4 V, 26 dB

**Procedure:** No Load. With the level controls at full gain and the input sensitivity switches set to 1.4 V, inject a 1 kHz, 0.775 Vrms, into each channel. At the output of each channel measure 38.3 Vrms, ±3.8 Vrms. Switch the Input Sensitivity switches to 26 dB. At the output of each channel measure 15.5 Vrms, ±0.5 Vrms. Switch the Input Sensitivity switches to 0.775 V, At the output of each channel measure 69.3 Vrms, ±6.9 Vrms.

### 4.6.3 Bridge Mono Operation

**Spec:** Same voltage out both channels, channel 2 out of phase.

**Procedure:** No load. Switch the Bridge Mono switch on and inject a 1 kHz sine wave into channel 1 only. Monitor both outputs of the amplifier. They should be the same voltage and 180 degrees out of phase with each other. Remove the signal and turn the Bridge Mono switch off.

### 4.6.4 Frequency Response

**Spec:** ±0.25 dB from 20 Hz to 20 kHz.

**Procedure:** Load the channel under test to 4 ohms. Inject a 0.1Vrms, 1kHz sine wave into the input. Measure the output voltage. It should be 2.0 Vrms. This is now your 1 kHz reference voltage. Switch the frequency to 20 Hz and verify that the input voltage is still 0.1 Vrms. Measure the output voltage. It should be the same as the 1 kHz reference voltage ±0.25 dB. Switch the frequency to 20 kHz and verify that the input voltage is still 0.1 Vrms. Measure the output voltage and compare it to the 1 kHz reference voltage. Tolerance is ±0.25 dB. Remove the load and signal. Note: Many oscillators need a frequency check at 20 kHz.

### 4.6.5 Short Circuit Test

**Spec:** Amplifier will protect itself

**Procedure:** Inject a 1kHz, 1Vrms sine wave into the input of channel 1. Short the output of channel 1 to ground for 10 seconds. The amplifier should cycle into fault mode. Every four to six seconds the Clip LEDs will flash, indicating that it is checking to see if the short is still there. Remove the short and perform the test on channel 2.

### 4.6.6 Output Power

**Spec:** Each channel

600 watts into 8 ohms

1,200 watts into 4 ohms

1,800 watts into 2 ohms (at ≥200V line voltage).

**Spec:** less than 0.5% THD.

**Procedure 8 ohm:** Load the channel under test to 8 ohms. Inject a 1kHz sine wave and bring the level up until the output reaches 0.5% THD. Measure at least 69.3 Vrms at the output.

**Procedure 4 ohm:** Load the channel under test to 4 ohms. Inject a 1kHz sine wave and bring the level up until the output reaches 0.5% THD. Measure at least 69.3 Vrms at the output.

**Procedure 2 ohm:** When testing 2-ohm power at line voltages under 200 VAC, test one channel at a time. Load the channel under test to 2 ohms. Inject a 1kHz sine wave and bring the level up until the output reaches 0.5% THD. Measure at least 60.0 Vrms at the output.

### 4.6.7 Intermodulation Distortion

**Spec:** Less than 0.5% from 0 dB to -30 dB.

**Procedure:** Load the channel under test to 8 ohms. Inject a SMPTE standard IM signal (60 Hz and 7 kHz mixed at 4:1). Adjust the output voltage for a peak equivalent voltage of 69.3 volts. This is your 0-dB reference. Measure less than 0.5% IMD from 0 dB to -30 dB in 5- dB steps.

### 4.6.8 Signal to Noise Ratio

**Spec:** Greater than 100 dB below rated 8 ohm power, A weighted.

**Procedure:** Load the channel under test to 8 ohms. Terminate the input with 600 ohms. Verify that the gain switch is set at 26 dB and level control is at full volume. Measure less than 550 µVrms at the output using an A-weighted filter.

### 4.6.9 Crosstalk at 20 kHz

**Spec:** Greater that 50 dB.

**Procedure:** Load each channel to 8 ohms. Verify that both gain switches are set at 26 dB and both level controls are at full volume. Inject a 2.0 Vrms, 20 kHz, sine wave into channel 1 and terminate channel 2 with 600 ohms. Measure less than 126.5 mV at the output of channel 2. Now remove the signal from channel one and inject it into channel 2. Terminate channel 1 with 600 ohms. Measure less than 126.5 mV at the output of channel 1.

### 4.6.10 Post Test Settings

After completion of testing, if all tests are satisfactory, the amplifier controls should be returned to the positions required by the customer. If the conditions are unknown or unspecified, the factory settings are as follows:

- Gain switches set to 1.4 V
- Bridge Mono switch turned off
- Level controls set fully counterclockwise
- Power switch turned off
- All filter switches set to the flat position

## 4.7 Calibrations

### 4.7.1 Gaussian Filter Calibration

**Procedure 1:** Obtain a multimeter with decibel measurement capabilities. Set the multimeter to dB measurement mode. Insert a 1 kHz signal into the input and measure at pin 14 of U111D. Reset the meter to 0 dB using the 1 kHz signal as a reference signal. Increase the signal generator frequency to 20 kHz, leaving the output level unchanged. While measuring pin 14 of U111D adjust R178 for a reduction of level by 2.6 dB (readout should be –2.6 dB).

**Procedure 2:** Obtain a multimeter with decibel measurement capabilities. Set the meter to dB measurement mode. Insert a 1 kHz signal into the input and measure at the speaker output (no load). Reset the meter to 0 dB using the 1 kHz signal as a reference signal. Increase the signal generator frequency to 12.5 kHz, leaving the output level unchanged. Adjust R178 for a meter reading of 0 db. This second test method is an alternative to the first and should give the desired results: a flat frequency response throughout the audio bandwidth.

### 4.7.2 Overlap Correction and Adjustment

**Conditions:**

- Amplifier output assembly MUST be room temperature (72 degrees F/21 degrees C)
- No input signal
- No load

**Procedure:** Monitor TP37 found on the Main PWA. Center oscilloscope to view lower right portion of waveform (see Figure 4.17). Adjust R170 for the sharpest-possible squarewave rising edges, with a transition curve less than 10.0V. Figure 4.18 shows a correct transition curve, Figure 4.19 shows “underlap” (under adjustment), where the transition curve exceeds 10.0V. Figure 4.20 shows “overlap” (over adjustment), where the transition curve is not “smooth.”

Repeat for channel 2, monitoring TP244 and adjusting R270.

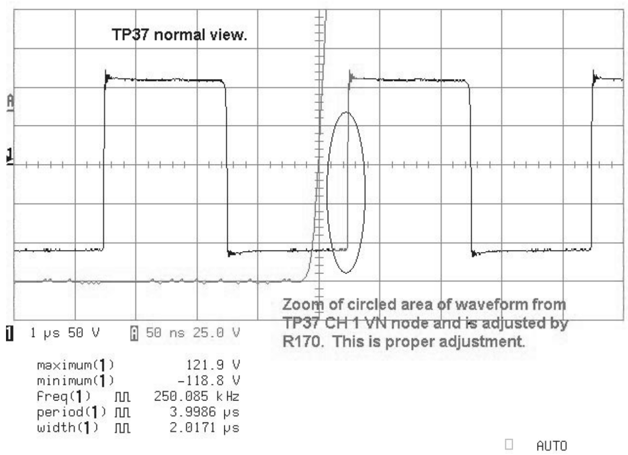



*Figure 4.17 Overlap Adjustment*

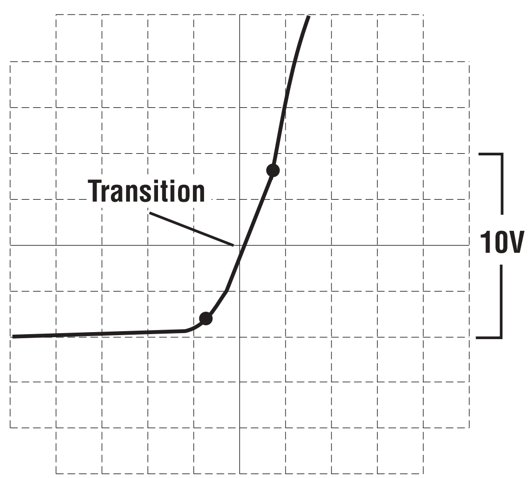



*Figure 4.18 Correct Overlap Adjustment (Less than 10V)*

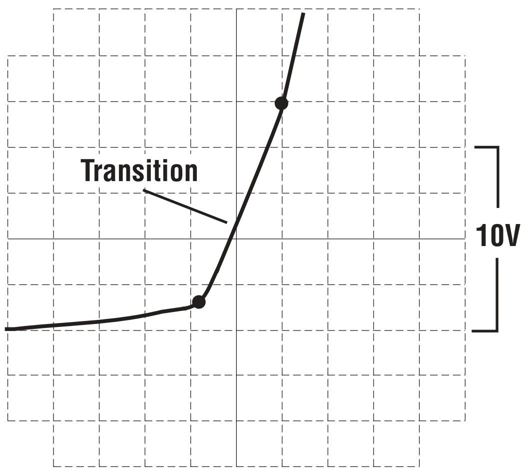



*Figure 4.19 Underlap (Greater than 10V)*

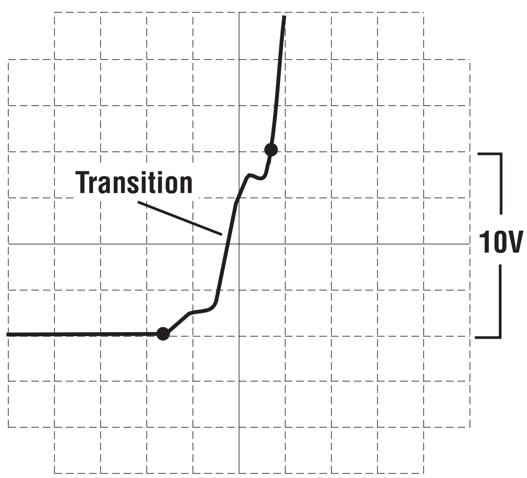



*Figure 4.20 Excessive Overlap (No Smooth Transition)*

### 4.7.3 Current Sensing Calibration

Drive and test one channel at a time.

1. Connect output to 8 Ohms load and apply 1kHz Sinewave input signal.

2. Adjust output gain level until output voltage measures 40Vrms on one channel.

3. Adjust R160 while observing TP-10 for channel 1 in order to achieve 1.0Vrms +/-10mVrms (see Figure 4.21).

4. Repeat the adjustment on R260 while observing TP-245 for channel 2.

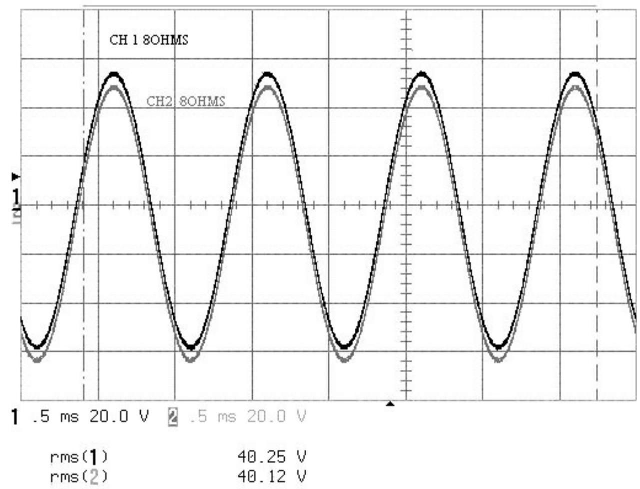



*Figure 4.21 Current Sensing Calibration*

### 4.7.4 Output Filter Calibration

Output Filter Calibration is **NOT** field adjustable and should not need adjustment. If you suspect the slugs ( L101, L102 for Channel 1 while L201 and L201 for Channel 2) have been moved, the amplifier should be sent to CROWN Factory Service for proper adjustment.

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# 5 Parts

## 5.1 General Information

Replacement parts for this Crown amplifier can be ordered from the Crown Parts Department.

**PART PRICES AND AVAILABILITY ARE SUBJECT TO CHANGE WITHOUT NOTICE.**

## 5.2 Ordering and Receiving Parts

When ordering parts, be sure to give the product model, and include a description and part number from the parts listing. Price quotes are available on request.

### 5.2.1 Terms

Normal terms are prepaid. Net-30 Days applies to only those having pre-established accounts with Crown. The Crown Parts Department does accept Visa or Master Card. If prepaying, the order must be packed and weighed before a total bill can be established, after which an amount due will be issued and shipment made upon receipt of payment. New parts returned for credit are subject to a restocking fee, and authorization from the Crown Parts Department must be obtained before returning parts for credit.

### 5.2.2 Shipment

Shipment will normally be made via UPS, or best other method unless you specify otherwise. Shipments are made to and from Elkhart, Indiana USA, only. Established accounts with Crown will receive shipment freight prepaid and will be billed. All others will receive shipment on a C.O.D. or prepayment (check or credit card) basis.

## 5.3 Mechanical Parts

This section includes a mechanical part list for this product. All serviceable parts and assemblies will have a Crown Part Number (CPN) listed in this chapter. The parts listed are current as of the date printed. Crown reserves the right to modify and improve its products for the benefit of its customers.

**Crown Customer Service**

Technical Support Group
Factory Service
Parts Department

*Mailing Address:* P.O. Box 1000, Elkhart IN 46515
*Shipping Address:* Plant 2 S. W.
1718 W. Mishawaka Rd., Elkhart IN 46517
Phone: (219) 294-8200
Toll Free: (800) 342-6939
Fax: (219) 294-8301
http://www.crownaudio.com

## 5.3.1 CE4000 Amplifier Assembly

Refer to Figure 5.1 for Exploded View

| Item | Quantity | Description | Part # (CPN) |
|---|---|---|---|
| 28 | 1 | ASM, CE4000 BACK PANEL | See section 5.2.2 |
| 27 | 1 | ASM, CE4000 POWER SWITCH | See section 5.2.8 |
| 26 | 1 | COVER, CE4000 TOP PC | 126223-4 |
| 25 | 3 | 4” CABLE TIE | C 1811-1-6 |
| 24 | 1 | 8-32 HEX NUT W/BELLE | A11056-2 |
| 23 | 2 | TIE, 5.625” CABLE | 127330-1 |
| 22 | 1 | SUB-FRONT, CE4000 FP PC | 130526-1 |
| 21 | 7 | CAP, CE400 PEM STANDOFF | 128119-2 |
| 20 | 1 | PWA, CE4000 MAIN | See section 5.4 |
| 19 | 1 | INDUCTOR,PFC | 127399-6 |
| 18 | 1 | PWA, CE4000 FLYBACK | See section 5.4 |
| 17 | 2 | RIVET, CE4000 INS RET PLASTIC | 128130-1 |
| 16 | 2 | INSULATOR, CE4000 HS NOMEX | 126923-4 |
| 15 | 1 | COILS, CE4000 L/PLN MATCHED | 127401-3 |
| 14 | 7 | WASHER, CE4000 HEATSINK SHLDR | 128120-1 |
| 13 | 7 | #10 BELLVILLE WASHER SS | A10098-4 |
| 12 | 7 | MSCREW, 10-32 X 3.50 TORX PNHD Z | 128345-1 |
| 11 | 2 | RIVET, CE4000 FAN PLENUM SNAP | 127777-1 |
| 10 | 1 | PLENUM, CE4000 FAN | 127473-3 |
| 9 | 4 | 6-32 HEX NUT W/BELLE | A11056-1 |
| 8 | 16 | SCREW, #6 X .250 MACH TORX PNHD | 103436-70604 |
| 7 | 2 | .5 X .136 X .02 NYLON WASHER | A10101-5 |
| 6 | 1 | SHEILD, CE4000 MAIN BD RBN AP | 128218-7 |
| 5 | 1 | PWA, CE4000 BFG | See section 5.4 |
| 4 | 16 | SEMS, 6-32 X .31 TORX PNHD STAR | 103433-70605 |
| 3 | 10 | 8-32 X .31 SERR FLTHD T15 BZ | 102156-1 |
| 2 | 2 | KNOB, D350 | D 8959-5 |
| 1 | 1 | CHASSIS, CE4000 WELD/AP/PC | 126222-11 |
| | | | ASM, NUMBER: 127390-4 |

**NOTES:**

1) THESE 8 SCREWS ARE USED TO FASTEN INPUT AND OUTPUT MODULES TO BACK PANEL.

2) THESE 4 NUTS ARE USED TO FASTEN OUTPUT MODULE BUSS BARS TO MAIN PWA.

3) SLIDE CABLE TIES (ITEM 25) THRU LANCES IN CHASSIS, PLACE RIBBON CABLE (PART OF ITEM 5) AGAINST CHASSIS SIDE PANEL BETWEEN LANCES, THEN SECURE CABLE TIES AROUND RIBBON CABLE.

**RECOMMENDED ASSEMBLY TORQUES**

| ITEM NO. | C.P.N. | TORQUE SETTINGS |
|---|---|---|
| 3 | 102156-1 | 12-14 IN LBS. |
| 4 | 103433-70605 | 16-18 IN LBS. |
| 8 | 103436-70604 | 10-12 IN LBS. |
| 9 | A11056-1 | 10-12 IN LBS. |
| 12 | 128345-1 | 16-18 IN LBS |
| 24 | A11056-2 | 10-12 INLBS |

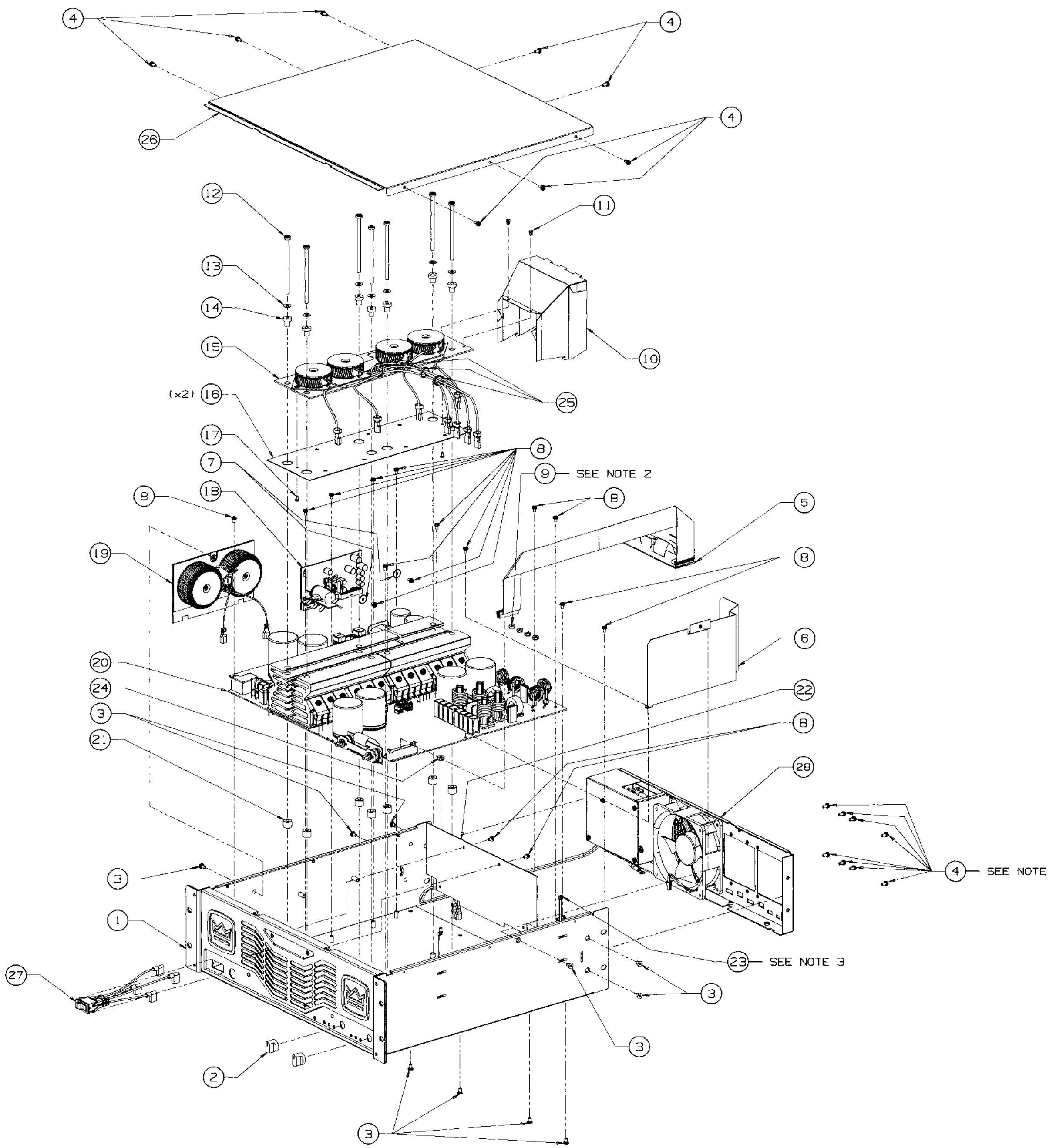



*Figure 5.1 Amplifier Assembly (Exploded View)*

## 5.3.2 Back Panel Assembly

Refer to Figure 5.2 for Exploded View

| Item | Quantity | Description | Part # (CPN) |
|---|---|---|---|
| 13 | 1 | LABEL, VDE EARTH GROUND | D 7037-1 |
| 12 | 2 | 8-32 HEX NUT W/BELLE | A11056-2 |
| 11 | 1 | WIRE, 14 GRN/YEL RING X 6.0 X RING | A11544-G060G |
| 10 | 1 | SHIELD, CE400EMI FILTER | 128229-7 |
| 9 | 1 | WIRE, 14 BLU FAST X 21 X FLAG | A11386-HZ10M |
| 8 | 1 | WIRE, 14 BRN FAST X 21 X FLAG | 103448-A21OM |
| 7 | 4 | STAND, 6-32 X 1.9375 HEX MALE/FEM | A12095-12 |
| 6 | 1 | PWA, CE EMI FILTER | See section 5.4 |
| 5 | 1 | WIRE, 14 GRN/YEL RING X 6.0 X FLAG | A11544-GO60M |
| 4 | 1 | IEC SNAP IN 15A UL/10A VDE | 102650-1 |
| 3 | 8 | SCREW, 6-32 X .250 MACH TORX PNHD | 103436-70604 |
| 2 | 1 | FAN, 120 X 120 X 38mm 12VDC 140CFM | 126992-2 |
| 1 | 1 | PANEL, CE4000 BACK AP/PC/PP | 127227-12 |
| | | | ASM. NUMBER: 130251-2 |

**NOTES:**

1) CONNECT ITEM 8 TO “J9” & ITEM 9 TO “J10” ON ITEM 6 PWA PRIOR TO ASSEMBLING ITEM 10.

**RECOMMENDED ASSEMBLY TORQUES**

| ITEM NO. | C.P.N. | TORQUE SETTINGS |
|---|---|---|
| 3 | 103436-70604 | 13-15 IN LBS. |
| 12 | A11056-2 | 10-12 IN LBS. |

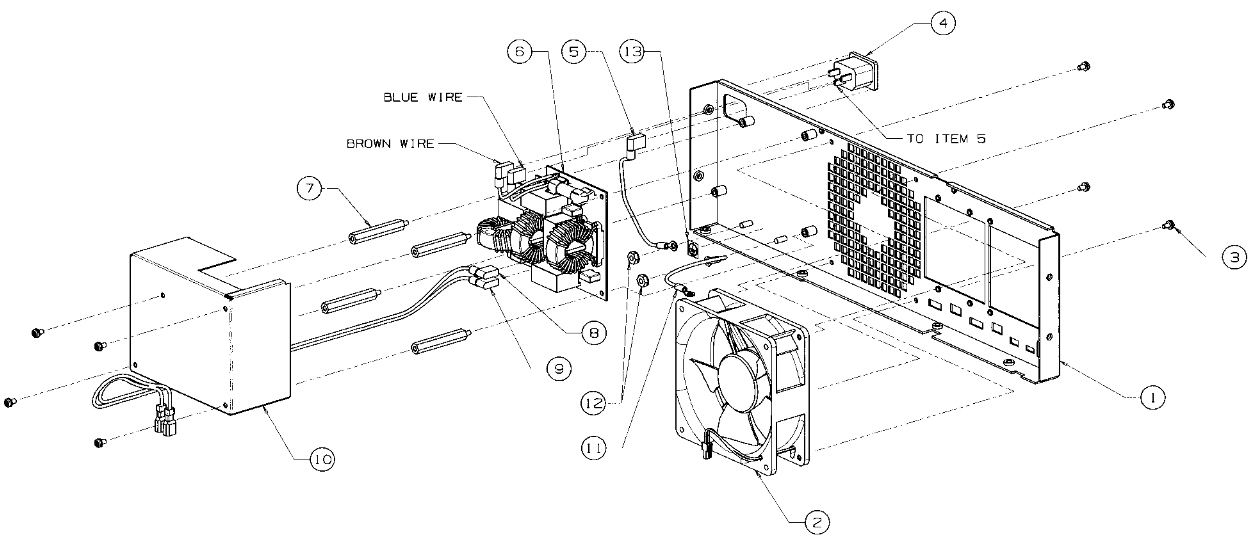



*Figure 5.2 CE4000 Back Panel Assembly (Exploded View)*

## 5.3.3 CE4000 PS Primary Heatsink Assembly

Refer to Figure 5.3 for Exploded View

| Item | Quantity | Description | Part # (CPN) |
|---|---|---|---|
| 11 | X | TYPE 340HEATSINK COMPOUND | S2162-6 |
| 10 | 1 | SHIM, CE4000 BRIDGE RECTIFIER | 128246-1 |
| 9 | 9 | 8-32 X .312 TORX PNPH SEM | 103415-10805 |
| 8 | 2 | CLIP, CE40002 FINGER | 127182-1 |
| 7 | 1 | CLIP, CE4000 2 FINGER | 127552-1 |
| 6 | 4 | MOSFET, 0.11 OHM 500V | 126738-1 |
| 5 | 1 | DIODE, 30A 600V HYPERFAST | 127457-1 |
| 4 | 2 | MOSFET, 0.08 OHM 500V TO-247 | 127456-1 |
| 3 | 1 | RECT, 50A 600V PC MNT BRIDGE | 125427-1 |
| 2 | 2.5 | WAFER, 3.000 X .90X.04 CERAMIC | 127204-1 |
| 1 | 1 | EXTRU, CE4000L-FR HS MACHINED | 127976-3<br>ASM. NUMBER:<br>128009-1 |

**RECOMMENDED ASSEMBLY TORQUES**

| ITEM NO. | C.P.N. | TORQUE SETTINGS |
|---|---|---|
| 9 | 103415-10805 | 22-24 IN LBS. |

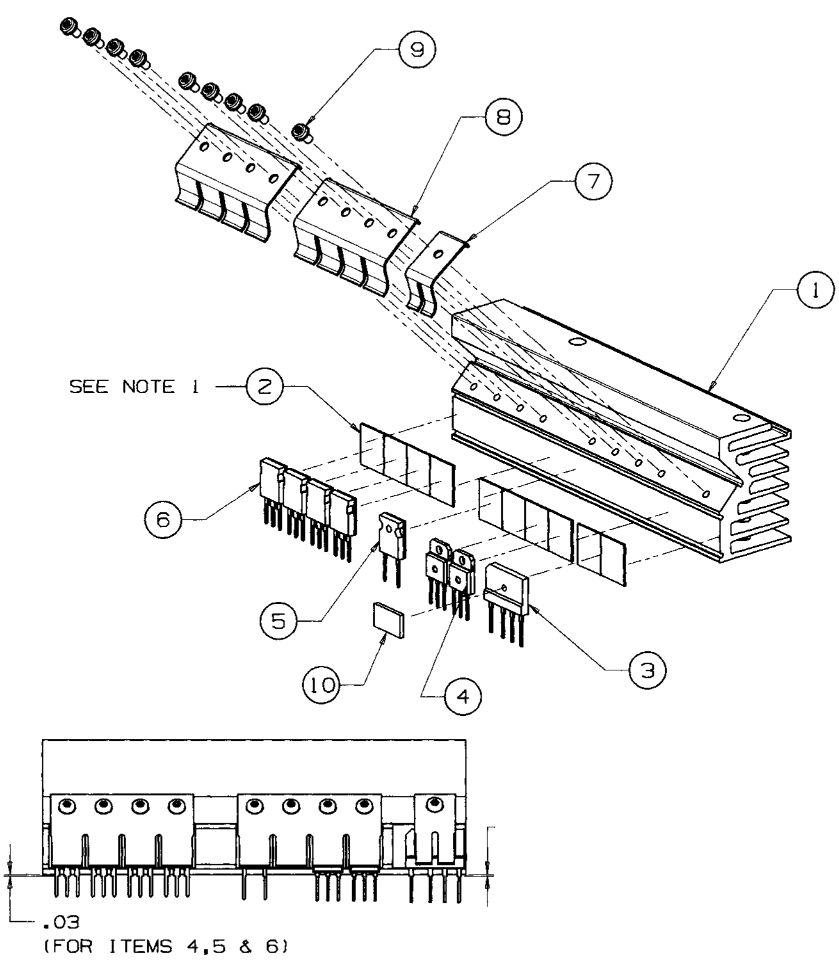



*Figure 5.3 CE4000 PS Primary Heatsink Assembly (Exploded View)*

# 5.3.4 CE4000 PS Diode Heatsink Assembly

Refer to Figure 5.4 for Exploded View

| Item | Quantity | Description | Part # (CPN) |
|---|---|---|---|
| 6 | X | TYPE 340HEATSINK COMPOUND | S2162-6 |
| 5 | 4 | 8-32 X .312 TORX PNPH SEM | 103415-10805 |
| 4 | 1 | CLIP, CE4000 4 FINGER SS .040 | 127182-1 |
| 3 | 4 | DIODE, 30A 600V HYPERFAST | 127457-1 |
| 2 | 1 | WAFER, 3.00 X.90 X .04 CERAMIC | 127204-1 |
| 1 | 1 | EXTRU,CE4000 L-RR HS MACHINED | 127977-3 |
| | | | ASM. NUMBER: 128010-1 |

**RECOMMENDED ASSEMBLY TORQUES**

| ITEM NO. | C.P.N. | TORQUE SETTINGS |
|---|---|---|
| 5 | 103415-10805 | 22-24 IN LBS. |

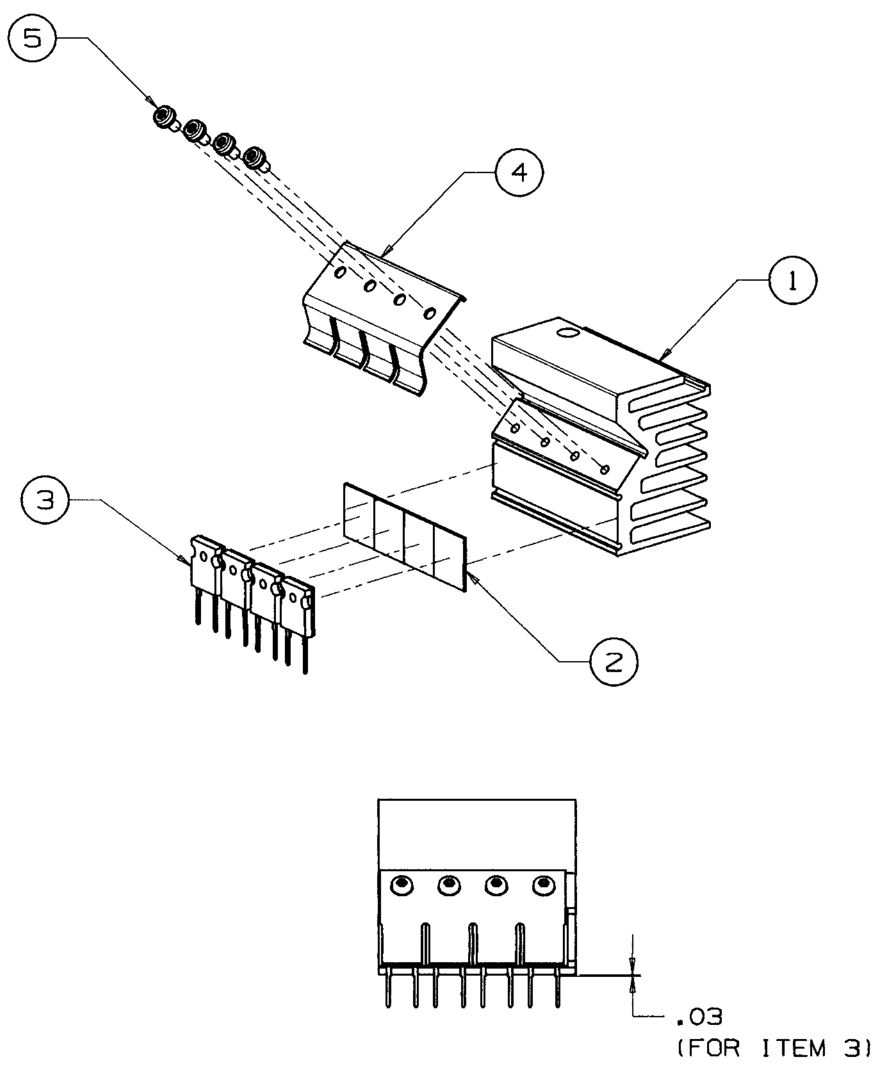



*Figure 5.4 CE4000 PS Diode Heatsink Assembly (Exploded View)*

## 5.3.5 CE4000 PS Output Heatsink Assembly

Refer to Figure 5.5 for Exploded View

| Item | Quantity | Description | Part # (CPN) |
|---|---|---|---|
| 7 | X | TYPE 340HEATSINK COMPOUND | S2162-6 |
| 6 | 6 | 8-32 X .312 TORX PNPH SEM | 103415-10805 |
| 5 | 6 | CLIP, CE4000 2 FINGER | 127552-1 |
| 4 | 4 | DIODE, 300V ULTRAFAST APT15D30K | D9053-6 |
| 3 | 8 | MOSFET, 250V 16A MTP16N25E | C10207-6 |
| 2 | 2 | WAFER, 2.7000 X .90 X .04 CERAMIC | 127564-1 |
| 1 | 1 | EXTRU, CE4000 R-HALF HS MACHINED | 127978-3 |
| | | | ASM. NUMBER: 128011-3 |

**RECOMMENDED ASSEMBLY TORQUES**

| ITEM NO. | C.P.N. | TORQUE SETTINGS |
|---|---|---|
| 6 | 103415-10805 | 22-24 IN LBS. |

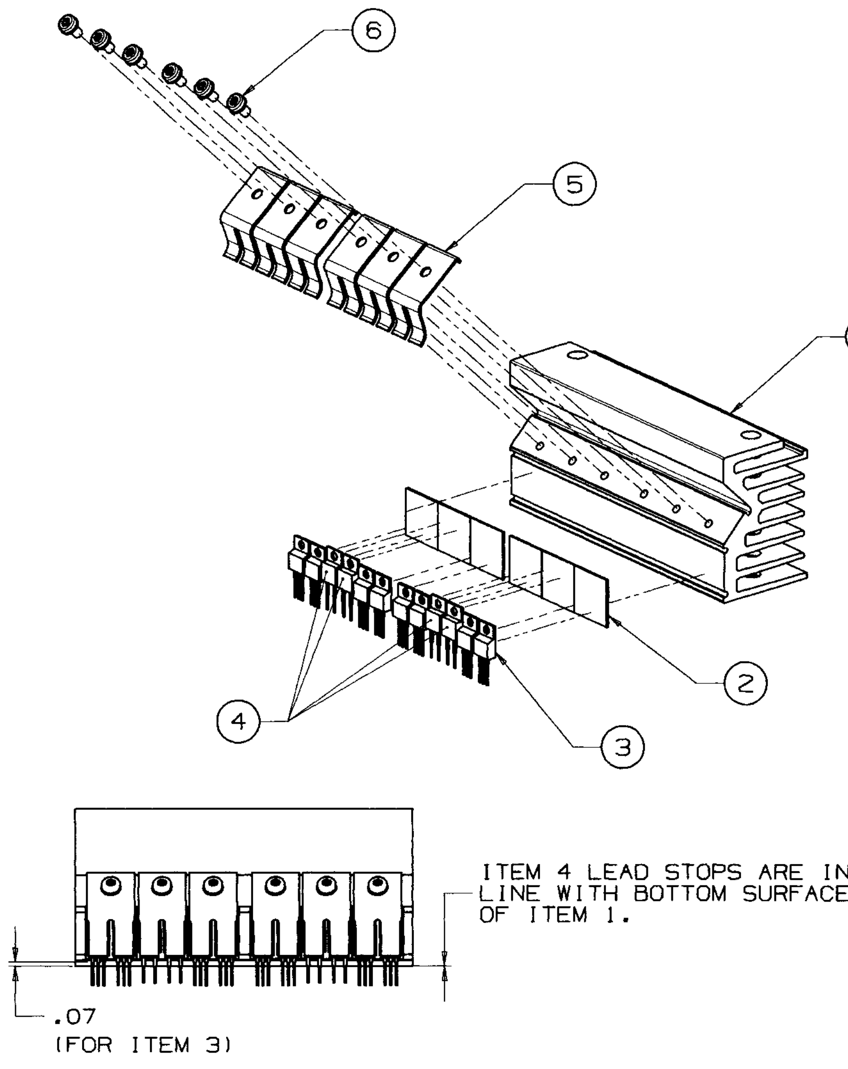



*Figure 5.5 CE4000 PS Output Heatsink Assembly (Exploded View)*

## 5.3.6 CE4000 Standard Input Assembly

Refer to Figure 5.6 for Exploded View

| Item | Quantity | Description | Part # (CPN) |
|---|---|---|---|
| 3 | 4 | SCREW, #4 X .5 PNHD PH AB BZ | A10111-70408 |
| 2 | 1 | PWA, CE INPUT EC | See section 5.4 |
| 1 | 1 | PANEL, CE INPUT CHARCOAL | 126787-5 |
| | | | ASM. NUMBER: 127049-1 |

**RECOMMENDED ASSEMBLY TORQUES**

| ITEM NO. | C.P.N. | TORQUE SETTINGS |
|---|---|---|
| 3 | A10111-70408 | 4-5 IN LBS. |
| 2 (REF) | 103435-70608 | 13-15 IN LBS. |

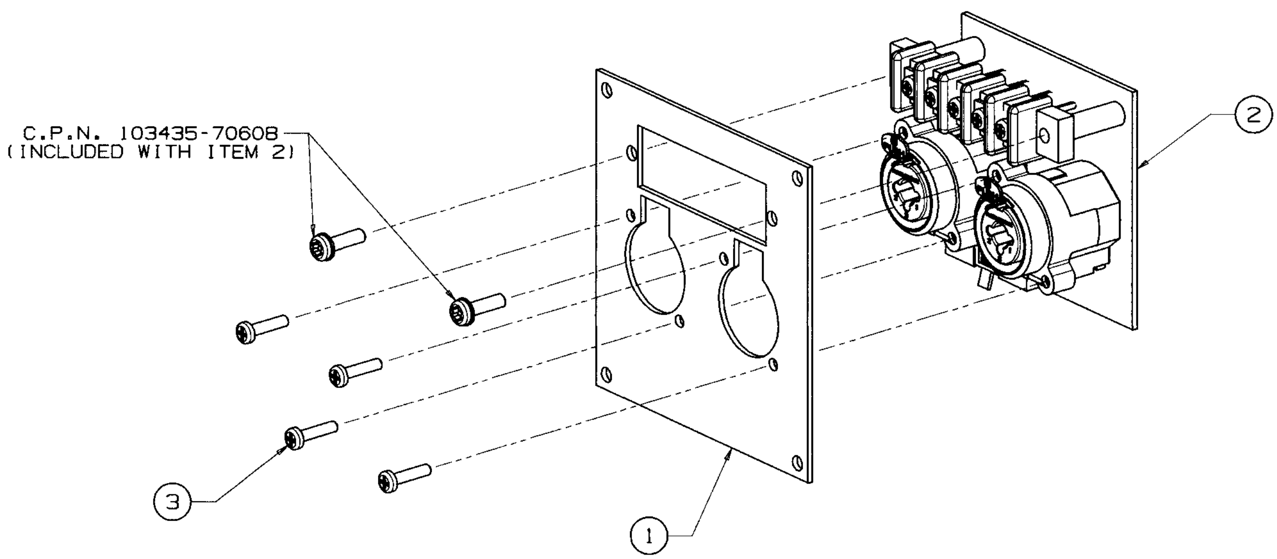



*Figure 5.6 CE4000 Standard Input Assembly (Exploded View)*

# 5.3.7 CE4000 Standard Domestic Ouput Assembly

Refer to Figure 5.7 for Exploded View

| Item | Quantity | Description | Part # (CPN) |
|---|---|---|---|
| 5 | 4 | SCREW, 6-32 X .250 MACH TORX PNHD | 103436-70604 |
| 4 | 1 | SHEILD, CE4000 OTPT BUSS BAR | 128203-1 |
| 3 | 1 | INSULATOR, CE4000 OTPTBUSS BAR | 128202-1 |
| 2 | 4 | BAR, CE4000 OUTPUT BUSS AP | 127672-2 |
| 1 | 1 | PWA, CE4000 SPEAKON/BDG POST OTPT | See section 5.4 |
| | | | ASM. NUMBER: 127831-1 |

**RECOMMENDED ASSEMBLY TORQUES**

| ITEM NO. | C.P.N. | TORQUE SETTINGS |
|---|---|---|
| 5 | 103436-70604 | 13-15 IN LBS |

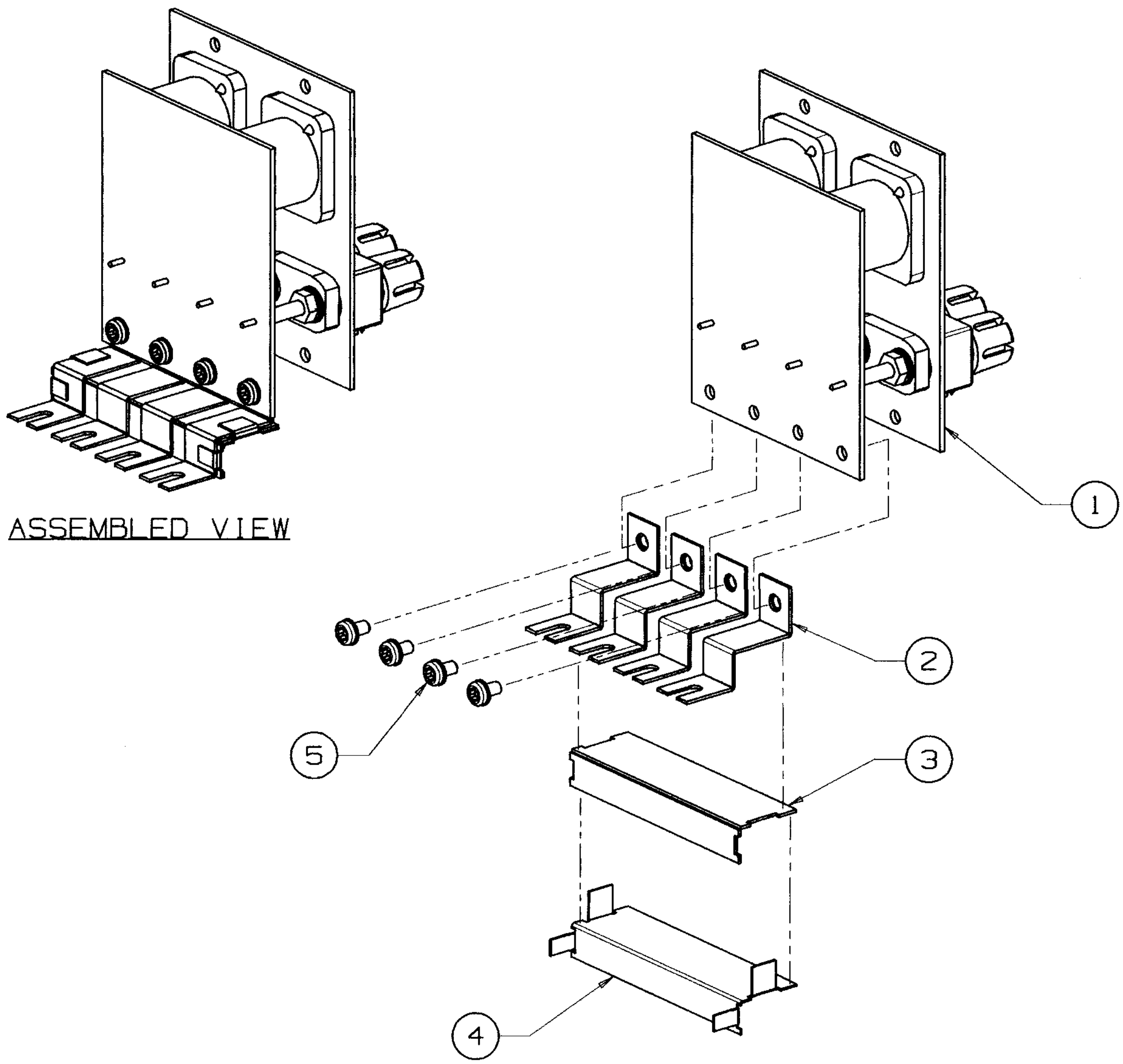



*Figure 5.7 CE4000 Standard Domestic Output Assembly (Exploded View)*

## 5.3.8 CE4000 Power Switch Assembly

Refer to Figure 5.8 for Exploded View

| Item | Quantity | Description | Part # (CPN) |
|---|---|---|---|
| 3 | 2 | WIRE, 16 WHT FAST X 4 X FLAG | A11518-K040P |
| 2 | 2 | WIRE, 16 BLK FAST X 4 X FLAG | A11608-EO30R |
| 1 | 1 | SWITCH, ROCKER PNL MNT DPST 16A | 127455-1 |
| | | | ASM. NUMBER: 128425-1 |

**NOTES:**

1) MARKINGS 1, ID, 2, 2D ARE IDENTIFIED ON SWITCH HOUSING.

2) J26, J27, J28, J29 ARE CORRESPONDING LOCATIONS ON PWA.

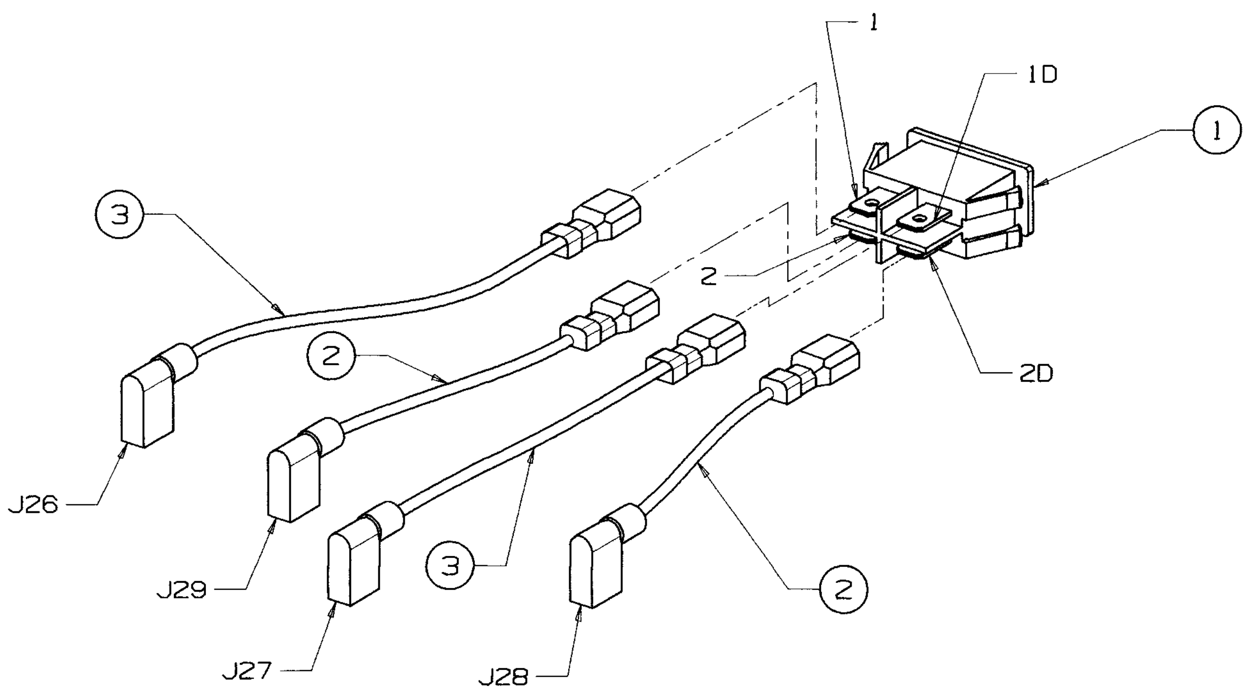



*Figure 5.8 CE4000 Power Switch Assembly (Exploded View)*

## 5.4 Circuit Board Parts

This section includes electrical parts lists for this product. All serviceable parts and assemblies will have a Crown Part Number (CPN) listed in this section. The parts listed are current as of the date printed. Crown reserves the right to modify and improve its products for the benefit of its customers. Please note: where reference designations are listed as "installed on next assembly," the CPN (Crown Part Number) for the associated part may be found in Section 6.2, Mechanical Parts.

### 5.4.1 Circuit Board and Schematic Part Numbers

The schematics referenced and provided are representative only. There may be slight variations between amplifier to amplifier. These schematics are intended to be used for troubleshooting purposes only.

Note on circuit board designations: Crown circuit boards are referenced with a PWA and/or PWB part number. PWA stands for Printed Wire Assembly. This is the completed circuit board with all components assembled. PWB stands for Printed Wire Board. This is the circuit board only, without components.

**CE4000 MAIN**

PWA NUMBER: 126218-13

Drawing Sheet:

41

42

PWA NUMBER: 126218-14

Drawing Sheet:

41

42

**CE4000 BFG**

PWA NUMBER: 126828-7

PWA NUMBER: 126828-12 (REV.2)

PWA NUMBER: 126828-12 (REV.A)

**CE4000 INPUT CE**

PWA NUMBER: 126883-4

Drawing Sheet:

4

**CE4000 FLYBACK**

PWA NUMBER: 127027-6

**CE4000 POT BOARD**

PWA NUMBER: 127563-3

**CE 4K SPEAKON/BDG POST OTPT**

PWA NUMBER: 127820-3

Drawing Sheet: 5

**CE4000 EMI FILTER**

PWA NUMBER: 128243-6

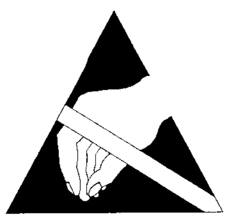
REVISION HISTORY

| E.C.N. | REV | DESCRIPTION | DATE | APPROVED DWN | CHK | CM | PE |
|---|---|---|---|---|---|---|---|
| 00N0568 | A | RELEASE FOR PRODUCTION | 06-16-00 | JAW | JLM | CB | TAS |
| | | | | | | | |

UNLESS OTHERWISE SPECIFIED, THIS PRINTED WIRING ASSEMBLY SHALL MEET THE SPECIFICATION DESCRIBED IN IPC-A-610_ CLASS 2 STANDARDS.

NOTES:

1. PRINTED WIRING BOARD PART NUMBER 126583-8.
2. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
3. POSITION COMPONENTS AS SHOWN ON COMPONENT MAPS.
4. THE PRINTED WIRING ASSEMBLY PART NUMBER FOR THIS ASSEMBLY SHALL BE MARKED ON THE PRINTED WIRING BOARD AND SHALL BE PERMANENT.
5. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES INDICATED ON COMPONENT MAP.
6. MAP LOCATIONS DENOTED BY AN ASTERISK (*), INDICATE COMPONENTS MOUNTED ON THE BOTTOM SIDE OF THE PRINTED WIRING BOARD.
7. THE VENT HOLE ON TOP OF THE RELAY K1 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMILAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
8. APPLY HOT MELT ADHESIVE(125647-1) FOR SUPPORT TO THE FOLLOWING COMPONENTS: C2,C700,R42,R142,R143,R149,R150,R242,R243,R249,R250, R325,R363,R364,R463, AND R464. ADHESIVE MUST HAVE A MINIMUM CONTACT AREA OF 1/4" X 1/2" ON BOTH THE DESIGNATED PART AND EITHER THE PWB OR ANY ADJACENT SOLID COMPONENT.
9. ATTACH R713 TO THE SIDE OF T1 WITH LOCTITE ADHESIVE(125482-1) AND ACTIVATOR(125483-1). NO MORE THAN 0.1" GAP ALLOWED BETWEEN BODY OF R713 AND SIDE OF T1. ANY GAP MUST BE FILLED WITH ADHESIVE (NO AIR BETWEEN R713 & T1).
10. THIS PWA MUST MEET ALL SPECIFICATIONS AS LISTED IN 128315 SPECS, CE4000 MAIN PWA.
11. ADD 1/4" SQ. PIECE OF KAPTON TAPE(S 6285-1) UNDER R260 AS SHOWN.



CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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FILENAME 126218-13_A_01.PCB

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|---|---|---|
| DWN | JAW | 06-16-00 |
| CHK | JLM | 6-16-00 |
| CM | CB | 6/19/00 |
| PE | TAS | 6-19-00 |

TOLERANCE UNLESS OTHERWISE SPECIFIED
.00 = ±.02"
.000 = ±.010"
DRILLS = ±.003"

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1718 W. MISHAWAKA RD.
ELKHART IN. 46517
PHONE(219)294-8000
WWW.CROWNINTL.COM

TITLE: PWA, CE4000 MAIN

| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126218-13 | A |

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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| C1 | 127046-1 | CAP, 940UF 450V HIGH RIPPLE | D 6 |
| C2 | C10094-8 | 1.5UF 630V 5% RADIAL POLY CAP | E 5 |
| C3 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | D 8 |
| C4 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | E 4 |
| C5 | | OPEN | B 10 |
| C6 | 127046-1 | CAP, 940UF 450V HIGH RIPPLE | B 4 |
| C7 | 127047-1 | CAP, 820UF 150V HIGH RIPPLE | D 13 |
| C8 | 127047-1 | CAP, 820UF 150V HIGH RIPPLE | C 13 |
| C9 | A11427-334J6 | .33UF 50V 5% CHIP X7R 1210 | E 3 |
| C10 | A11427-334J6 | .33UF 50V 5% CHIP X7R 1210 | D 4 |
| C11 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 4* |
| C12 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 3* |
| C13 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | D 3 |
| C14 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | D 3 |
| C15 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | M 6* |
| C16 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | C 3 |
| C17 | C10090-6 | 4.7UF 400V 10% AXIAL FILM | D 9 |
| C18 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | D 7 |
| C19 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 3 |
| C20 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 3* |
| C21 | A11369-561F2 | 560PF 50V 1% NPO MLC 0805 | D 4 |
| C22 | A11369-152J2 | 1500PF 50V 5% NPO MLC 0805 T/R | D 3 |
| C23 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | D 3 |
| C24 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | C 4 |
| C25 | C 7091-9 | .33 UF 50V Z5U CHIP CAP | D 4* |
| C26 | A11427-102K2 | .001UF 50V 10% X7R CER CHIP | C 8 |
| C27 | C 4253-8 | 4.7UF 63V 20% VERT ELECT T/R | E 4 |
| C28 | C 8268-2 | 220UF 35V 20% VERT | B 8 |
| C29 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 8* |
| C30 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | M 7 |
| C31 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | N 7 |
| C32 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | O 7 |
| C33 | A11369-222K5 | 2200PF 50V 10% CHIP NPO 1206 | C 8* |
| C34 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | B 3 |
| C35 | A11369-471K2 | 470PF 50V 10% NPO 0805 T/R | C 8 |
| C36 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 8 |
| C37 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | D 8 |
| C38 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 8 |
| C39 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | D 8 |
| C40 | | OPEN | A 7 |
| C41 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | P 7 |
| C42 | A11369-101J2 | 100 PF 50V 5% NPO MLC 0805 T/R | M 6* |
| C43 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | C 9* |
| C44 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | A 8 |
| C45 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | E 4 |
| C46 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 9* |
| C47 | C 9465-3 | 10UF 50V 20% VERT ELECT T/A | B 4 |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| C48 | C 7091-9 | .33 UF 50V Z5U CHIP CAP | A 3 |
| C49 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | B 3 |
| C50 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | A 4 |
| C51 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 8* |
| C52 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 8* |
| C53 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | M 8 |
| C54 | 126630-1 | CAP, 470UF 25V RAD ELECT | I 13 |
| C56 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 1* |
| C57 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 1* |
| C58 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 1* |
| C59 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 1* |
| C60 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 1 |
| C61 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 1 |
| C62 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | C 8* |
| C63 | A11427-334J6 | .33UF 50V 5% CHIP X7R 1210 | H 14 |
| C64 | 125508-1 | 10UF 50V 20% SMT AL ELECT T/R | G 14 |
| C65 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | G 14 |
| C66 | 102438-560K2 | 56PF 200V 10% NPO 0805 T/R | H 14 |
| C67 | 102438-560K2 | 56PF 200V 10% NPO 0805 T/R | H 13 |
| C68 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | H 14 |
| C69 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 5 |
| C70 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | C 7 |
| C71 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 9* |
| C72 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | B 3 |
| C73 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | A 4 |
| C74 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 7* |
| C75 | A11427-473K5 | .047UF 50V CHIP CAPACITOR X7R | B 3 |
| C76 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | C 3 |
| C78 | A11427-102K2 | .001UF 50V 10% X7R CER CHIP | B 3 |
| C79 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | E 7 |
| C80 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | E 8 |
| C81 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | O 1 |
| C82 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | M 5 |
| C83 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 6* |
| C84 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 6* |
| C85 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | L 5 |
| C86 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | L 6 |
| C87 | C10516-0 | 470.UF 10V 20% LOW ESR RDL T/R | L 6 |
| C88 | C10516-0 | 470.UF 10V 20% LOW ESR RDL T/R | L 7 |
| C89 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | B 7 |
| C90 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | N 3* |
| C91 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 5 |
| C92 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 3* |
| C93 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | C 3* |
| C94 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 3* |
| C95 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 3* |
| C96 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 3* |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| C97 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 12 |
| C98 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 12 |
| C99 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | C 7* |
| C100 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | N 13 |
| C101 | | OPEN | P 5* |
| C102 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | P 5 |
| C103 | 102438-101K2 | 100PF 200V NPO 0805 T/R | O 6 |
| C104 | 102438-221F2 | 220PF 200V 1% NPO 0805 | O 6 |
| C105 | 102438-102J6 | 1000PF 200V 5% 1210 NPO | O 6* |
| C106 | 103430-331K2 | 330PF 250V 10% NPO 0805 T/R | O 6* |
| C107 | 102438-221F2 | 220PF 200V 1% NPO 0805 | P 6 |
| C108 | A11427-473K5 | .047UF 50V CHIP CAPACITOR X7R | O 6 |
| C109 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | O 6 |
| C110 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | P 5* |
| C111 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | O 5* |
| C112 | A11369-471F2 | 470.PF 50V 1% NPO MLC 0805 | O 5* |
| C113 | A11369-101J2 | 100 PF 50V 5% NPO MLC 0805 T/R | O 5* |
| C114 | A11369-332F5 | 3300.PF 50V 1% NPO MLC 1206 | O 5 |
| C115 | A11369-332F5 | 3300.PF 50V 1% NPO MLC 1206 | P 6* |
| C116 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | P 6* |
| C117 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | P 6* |
| C118 | A11369-470K2 | 47PF 50V 10% NPO 0805 T/R | N 5* |
| C119 | A11369-470K2 | 47PF 50V 10% NPO 0805 T/R | N 6* |
| C120 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 5 |
| C121 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 5 |
| C122 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 5* |
| C123 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | O 5 |
| C124 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 6 |
| C125 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 6 |
| C126 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 6* |
| C127 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | O 6 |
| C128 | C10466-8 | .22UF 50V 5% MTL FILM RDL T/A | M 9 |
| C129 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | M 10 |
| C130 | A11427-103K5 | 0.01UF 50V 10% X7R SMD 1206 | N 7 |
| C131 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | M 10 |
| C132 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | N 12 |
| C133 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | N 12 |
| C134 | A11427-224J5 | 0.22UF 50V 5% X7R 1206 T/R | M 12 |
| C135 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | M 12 |
| C136 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | N 13 |
| C137 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | N 13 |
| C138 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | N 13 |
| C139 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | N 13 |
| C140 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | O 13 |
| C141 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | E 4 |
| C142 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | A 9 |
| C143 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | B 9 |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| C144 | A11427-473K5 | .047UF 50V CHIP CAPACITOR X7R | A 4* |
| C145 | A11427-334J6 | .33UF 50V 5% CHIP X7R 1210 | N 6 |
| C146 | A11427-103K5 | 0.01UF 50V 10% X7R SMD 1206 | N 6 |
| C147 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 6 |
| C148 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 7* |
| C149 | 130561-1 | 10UF 25V 20% ALUM ELEC SMT T/R | M 7 |
| C150 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 7* |
| C151 | A11369-102K5 | 1000PF 50V 10% NPO 1206 SMD | M 7* |
| C152 | A11369-102K5 | 1000PF 50V 10% NPO 1206 SMD | N 7* |
| C153 | C 6995-2 | 022UF 100V CHIP CAPACITOR X7R | N 6* |
| C154 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | N 6* |
| C155 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 6* |
| C156 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 6* |
| C157 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | N 6 |
| C158 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | N 6 |
| C159 | A11369-221K2 | 220.PF 50V 10% NPO MLC 0805 | N 6 |
| C160 | 127684-1 | .0047UF 5% 16V 0805 FILM SMT | O 4* |
| C161 | 127684-1 | .0047UF 5% 16V 0805 FILM SMT | O 4* |
| C162 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | O 5* |
| C163 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | O 5* |
| C164 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | O 5* |
| C165 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | O 5* |
| C166 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | O 5* |
| C167 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | N 5* |
| C168 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | O 5* |
| C169 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | N 5* |
| C170 | 126623-1 | 47UF 16V 6.3X5.5MM 20% SMT | O 5 |
| C171 | A11369-102K5 | 1000PF 50V 10% NPO 1206 SMD | L 3* |
| C172 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | M 6 |
| C173 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | P 5 |
| C174 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | O 5 |
| C175 | 126543-1 | 2.2UF 50V 5.5MM HIGH NP SMD | N 5 |
| C176 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | M 4* |
| C177 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 3* |
| C178 | | OPEN | L 8 |
| C179 | A11427-184J5 | 0.18UF 50V 5% X7R 1206 T/R | N 2* |
| C180 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | N 3 |
| C181 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | M 5 |
| C182 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 8 |
| C183 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 8 |
| C184 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 11* |
| C185 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 8 |
| C186 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 8 |
| C187 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 8 |
| C188 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 8* |
| C189 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 8* |
| C190 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | N 9 |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| C191 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | N 9 |
| C192 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | N 9 |
| C193 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 11* |
| C194 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 11* |
| C195 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 12 |
| C196 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 11 |
| C197 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 12 |
| C198 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 6* |
| C199 | A11369-471K5 | 470PF 50V 10% CHIP NPO 1206 | P 6* |
| C200 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | O 13 |
| C201 | | OPEN | P 3* |
| C202 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | P 3 |
| C203 | 102438-101K2 | 100PF 200V NPO 0805 T/R | O 4 |
| C204 | 102438-221F2 | 220PF 200V 1% NPO 0805 | O 4 |
| C205 | 102438-102J6 | 1000PF 200V 5% 1210 NPO | O 4* |
| C206 | 103430-331K2 | 330PF 250V 10% NPO 0805 T/R | O 4* |
| C207 | 102438-221F2 | 220PF 200V 1% NPO 0805 | P 4 |
| C208 | A11427-473K5 | .047UF 50V CHIP CAPACITOR X7R | O 4 |
| C209 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | O 4 |
| C210 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | P 3* |
| C211 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | O 4* |
| C212 | A11369-471F2 | 470.PF 50V 1% NPO MLC 0805 | O 4* |
| C213 | A11369-101J2 | 100 PF 50V 5% NPO MLC 0805 T/R | O 4* |
| C214 | A11369-332F5 | 3300.PF 50V 1% NPO MLC 1206 | O 4 |
| C215 | A11369-332F5 | 3300.PF 50V 1% NPO MLC 1206 | P 4* |
| C216 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | P 4* |
| C217 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | P 4* |
| C218 | A11369-470K2 | 47PF 50V 10% NPO 0805 T/R | N 4* |
| C219 | A11369-470K2 | 47PF 50V 10% NPO 0805 T/R | N 3* |
| C220 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 4 |
| C221 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 4 |
| C222 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 4* |
| C223 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | O 4 |
| C224 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 3 |
| C225 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 4 |
| C226 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 3* |
| C227 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | O 3 |
| C228 | C10466-8 | .22UF 50V 5% MTL FILM RDL T/A | P 9 |
| C229 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | P 10 |
| C230 | A11427-103K5 | 0.01UF 50V 10% X7R SMD 1206 | O 7 |
| C231 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | P 10 |
| C232 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | P 12 |
| C233 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | P 12 |
| C234 | A11427-224J5 | 0.22UF 50V 5% X7R 1206 T/R | O 12 |
| C235 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | O 12 |
| C236 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | O 13 |
| C237 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | O 13 |
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| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| C238 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | P 13 |
| C239 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | P 13 |
| C240 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | O 13 |
| C241 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | C 8 |
| C242 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | D 8 |
| C245 | A11427-334J6 | .33UF 50V 5% CHIP X7R 1210 | O 6 |
| C246 | A11427-103K5 | 0.01UF 50V 10% X7R SMD 1206 | O 6 |
| C247 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5 |
| C248 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 7* |
| C249 | 130561-1 | 10UF 25V 20% ALUM ELEC SMT T/R | O 7 |
| C250 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 7* |
| C251 | A11369-102K5 | 1000PF 50V 10% NPO 1206 SMD | O 7* |
| C252 | A11369-102K5 | 1000PF 50V 10% NPO 1206 SMD | P 7* |
| C253 | C 6995-2 | 022UF 100V CHIP CAPACITOR X7R | N 4* |
| C254 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | N 4* |
| C255 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 4* |
| C256 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 4* |
| C257 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | N 4 |
| C258 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | N 4 |
| C259 | A11369-221K2 | 220.PF 50V 10% NPO MLC 0805 | N 4 |
| C260 | 127684-1 | .0047UF 5% 16V 0805 FILM SMT | O 3* |
| C261 | 127684-1 | .0047UF 5% 16V 0805 FILM SMT | O 3* |
| C262 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | O 3* |
| C263 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | O 3* |
| C264 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | O 3* |
| C265 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | O 3* |
| C266 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | O 3* |
| C267 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | N 3* |
| C268 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | O 3* |
| C269 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | N 3* |
| C270 | 126623-1 | 47UF 16V 6.3X5.5MM 20% SMT | O 3 |
| C271 | A11369-471K5 | 470PF 50V 10% CHIP NPO 1206 | P 4* |
| C272 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | N 5 |
| C273 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | P 4 |
| C274 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | O 4 |
| C275 | 126543-1 | 2.2UF 50V 5.5MM HIGH NP SMD | N 4 |
| C276 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | M 2* |
| C277 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 3* |
| C278 | | OPEN | N 3* |
| C279 | A11427-184J5 | 0.18UF 50V 5% X7R 1206 T/R | N 2* |
| C281 | 126623-1 | 47UF 16V 6.3X5.5MM 20% SMT | B 7 |
| C282 | A11369-471K5 | 470PF 50V 10% CHIP NPO 1206 | O 4 |
| C283 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 8* |
| C284 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 7* |
| C285 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | N 3 |
| C286 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 4 |
| C287 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 5 |
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|---|---|---|---|
| C288 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 5* |
| C289 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 5* |
| C290 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | O 9 |
| C291 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | O 9 |
| C292 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | O 9 |
| C293 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 2* |
| C294 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 2* |
| C295 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 2 |
| C296 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 2 |
| C297 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 2 |
| C298 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 7 |
| C299 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 4* |
| C300 | A11369-102K5 | 1000PF 50V 10% NPO 1206 SMD | L 3* |
| C301 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 7* |
| C302 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 4* |
| C303 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 4* |
| C304 | | OPEN | A 10 |
| C305 | | OPEN | B 10 |
| C306 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 7 |
| C307 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | H 14 |
| C308 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 8 |
| C309 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 8 |
| C310 | 125508-1 | 10UF 50V 20% SMT AL ELECT T/R | M 3 |
| C313 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | M 9 |
| C314 | A11427-103K5 | 0.01UF 50V 10% X7R SMD 1206 | D 3* |
| C315 | A11369-471K5 | 470PF 50V 10% CHIP NPO 1206 | O 5 |
| C316 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 8 |
| C317 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 8 |
| C318 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 8 |
| C319 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 8 |
| C320 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | D 3 |
| C321 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 7 |
| C322 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 8 |
| C323 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 5* |
| C324 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 5 |
| C325 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 5* |
| C326 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 5* |
| C327 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 5* |
| C328 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 5* |
| C329 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 2* |
| C330 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 2* |
| C332 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | D 8 |
| C333 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | C 3* |
| C334 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | C 7* |
| C335 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | C 3* |
| C336 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | M 5 |
| C337 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | A 10 |
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|---|---|---|---|
| C338 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 9 |
| C339 | A11427-224J5 | 0.22UF 50V 5% X7R 1206 T/R | N 2* |
| C340 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 4* |
| C341 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 4* |
| C342 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5* |
| C343 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5* |
| C344 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 2* |
| C345 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 2* |
| C346 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 8 |
| C347 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 8 |
| C348 | C10325-6 | 2200.PF 250VAC 20% FILM Y2 | C 11 |
| C349 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | M 4 |
| C350 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 6* |
| C351 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 6* |
| C352 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 6* |
| C353 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 2* |
| C354 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | N 4 |
| C355 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 2* |
| C356 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5 |
| C357 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5 |
| C358 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 9* |
| C360 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 9* |
| C361 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 9* |
| C363 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | H 7* |
| C365 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 7* |
| C366 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 12* |
| C367 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 12* |
| C369 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 10* |
| C371 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 10* |
| C372 | 127483-1 | 6300UF 125V 9A LOW ESL 5 PIN | L 10 |
| C373 | 127483-1 | 6300UF 125V 9A LOW ESL 5 PIN | L 12 |
| C374 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 9* |
| C375 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 7* |
| C377 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | H 12* |
| C378 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 10* |
| C380 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 8* |
| C382 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 9* |
| C384 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 11* |
| C386 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 12* |
| C387 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 9 |
| C388 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 9 |
| C390 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 11 |
| C391 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 11 |
| C397 | A10434-103JD | .01UF 250V 5%MTL POLY FILM T/A | N 10 |
| C398 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | O 5* |
| C400 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 5* |
| C401 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 4* |
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|---|---|---|---|
| C403 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 6* |
| C404 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | H 6* |
| C407 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 2* |
| C408 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 1* |
| C409 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 3* |
| C410 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 3* |
| C413 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 4* |
| C414 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 6* |
| C416 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 6 |
| C417 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 6 |
| C418 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 6 |
| C419 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 6 |
| C421 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 6 |
| C422 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 4 |
| C423 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 4* |
| C424 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 4* |
| C425 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 3* |
| C426 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 3 |
| C427 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 3* |
| C428 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 3* |
| C429 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 3* |
| C430 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 3* |
| C431 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 4* |
| C432 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 4* |
| C435 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | H 2* |
| C436 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 3* |
| C437 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 4* |
| C438 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 5* |
| C440 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 1* |
| C441 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 3* |
| C446 | 127483-1 | 6300UF 125V 9A LOW ESL 5 PIN | L 4 |
| C447 | 127483-1 | 6300UF 125V 9A LOW ESL 5 PIN | L 2 |
| C449 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 5 |
| C453 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 5 |
| C454 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 3 |
| C455 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 3 |
| C497 | A10434-103JD | .01UF 250V 5%MTL POLY FILM T/A | O 10 |
| C498 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | O 3* |
| C500 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | N 1 |
| C501 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | O 1 |
| C502 | A11369-221K2 | 220.PF 50V 10% NPO MLC 0805 | N 1 |
| C600 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | N 1 |
| C601 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | O 1 |
| C602 | A11369-221K2 | 220.PF 50V 10% NPO MLC 0805 | N 1 |
| C700 | C 7099-2 | 0.47UF 250VAC 50-400HZ RFI CAP | E 1 |
| C701 | A11427-102K2 | .001UF 50V 10% X7R CER CHIP | B 8* |
| C702 | | OPEN | C 8* |
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|---|---|---|---|
| D1 | | INSTALLED ON PREVIOUS ASSEMBLY | F 1 |
| D2 | | INSTALLED ON PREVIOUS ASSEMBLY | F 5 |
| D3 | | INSTALLED ON PREVIOUS ASSEMBLY | F 11 |
| D4 | | INSTALLED ON PREVIOUS ASSEMBLY | F 10 |
| D5 | | INSTALLED ON PREVIOUS ASSEMBLY | F 12 |
| D6 | | INSTALLED ON PREVIOUS ASSEMBLY | F 12 |
| D7 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | D 4 |
| D8 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | D 3 |
| D9 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 9 |
| D10 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 9 |
| D11 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | E 4 |
| D12 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 9 |
| D13 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 9 |
| D14 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 3* |
| D15 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 8 |
| D16 | | OPEN | B 11 |
| D17 | | OPEN | A 8 |
| D18 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | A 4 |
| D19 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | A 3 |
| D22 | 125255-1 | DIODE, ULTRAFAST 200V 1A SMA | H 14 |
| D24 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | O 1 |
| D25 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | O 1 |
| D26 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 9 |
| D27 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | B 9 |
| D33 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | C 2 |
| D34 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | L 6 |
| D35 | 125593-1 | DIODE, SCHOTTKY 40V 1A SMA | L 6 |
| D36 | 125593-1 | DIODE, SCHOTTKY 40V 1A SMA | L 7 |
| D37 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | M 3 |
| D38 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | M 3 |
| D43 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 10 |
| D44 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 7 |
| D45 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | A 4 |
| D100 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | N 13 |
| D101 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | N 13 |
| D102 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | N 12 |
| D103 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | N 12 |
| D104 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | P 5 |
| D105 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | P 6 |
| D106 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | P 6 |
| D107 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | N 5* |
| D109 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | N 7 |
| D110 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | P 5 |
| D120 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 5 |
| D121 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 5 |
| D122 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | N 2 |
| D123 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 7 |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| D124 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 8 |
| D125 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 8 |
| D126 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 8 |
| D127 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 8 |
| D128 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 5 |
| D129 | 125620-1 | DIODE, FAST RECOVERY 400V 1A | N 10 |
| D130 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 8 |
| D131 | 125593-1 | DIODE, SCHOTTKY 40V 1A SMA | K 7 |
| D132 | 125593-1 | DIODE, SCHOTTKY 40V 1A SMA | K 7 |
| D133 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 5 |
| D134 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 11 |
| D138 | | OPEN | J 8 |
| D139 | | OPEN | J 9 |
| D140 | | INSTALLED ON PREVIOUS ASSEMBLY | J 9 |
| D141 | | INSTALLED ON PREVIOUS ASSEMBLY | J 8 |
| D142 | | INSTALLED ON PREVIOUS ASSEMBLY | J 11 |
| D143 | | INSTALLED ON PREVIOUS ASSEMBLY | J 11 |
| D144 | | OPEN | J 11 |
| D145 | | OPEN | J 11 |
| D146 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 4 |
| D200 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | O 13 |
| D201 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | O 13 |
| D202 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | O 12 |
| D203 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | O 12 |
| D204 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | P 3 |
| D205 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | P 4 |
| D206 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | P 4 |
| D207 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | N 4* |
| D209 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | P 7 |
| D210 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | P 3 |
| D222 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | N 2 |
| D223 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 7 |
| D229 | 125620-1 | DIODE, FAST RECOVERY 400V 1A | P 10 |
| D231 | 125593-1 | DIODE, SCHOTTKY 40V 1A SMA | K 6 |
| D232 | 125593-1 | DIODE, SCHOTTKY 40V 1A SMA | K 6 |
| D238 | | OPEN | J 6 |
| D239 | | OPEN | J 5 |
| D240 | | INSTALLED ON PREVIOUS ASSEMBLY | J 5 |
| D241 | | INSTALLED ON PREVIOUS ASSEMBLY | J 5 |
| D242 | | INSTALLED ON PREVIOUS ASSEMBLY | J 2 |
| D243 | | INSTALLED ON PREVIOUS ASSEMBLY | J 3 |
| D244 | | OPEN | J 2 |
| D245 | | OPEN | J 3 |
| D246 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 3 |
| D500 | | OPEN | N 1 |
| D600 | | OPEN | O 1 |
| D700 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 8 |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| Q104 | 126616-1 | XSISTOR, 100V 2A DRLNGTN DPAK | I 13 |
| Q105 | 126616-1 | XSISTOR, 100V 2A DRLNGTN DPAK | I 14 |
| Q106 | | INSTALLED ON PREVIOUS ASSEMBLY | J 9 |
| Q107 | | INSTALLED ON PREVIOUS ASSEMBLY | J 8 |
| Q108 | | INSTALLED ON PREVIOUS ASSEMBLY | J 12 |
| Q109 | | INSTALLED ON PREVIOUS ASSEMBLY | J 11 |
| Q110 | | INSTALLED ON PREVIOUS ASSEMBLY | J 7 |
| Q111 | | INSTALLED ON PREVIOUS ASSEMBLY | J 9 |
| Q112 | | INSTALLED ON PREVIOUS ASSEMBLY | J 12 |
| Q113 | | INSTALLED ON PREVIOUS ASSEMBLY | J 10 |
| Q115 | C 7448-1 | MMBT3904 CHIP NPN | M 4 |
| Q200 | C 7448-1 | MMBT3904 CHIP NPN | P 4 |
| Q201 | 125798-1 | TRANSISTOR,MMBT3906LTI PNP SMT | P 4 |
| Q203 | C 7448-1 | MMBT3904 CHIP NPN | N 2 |
| Q206 | | INSTALLED ON PREVIOUS ASSEMBLY | J 5 |
| Q207 | | INSTALLED ON PREVIOUS ASSEMBLY | J 6 |
| Q208 | | INSTALLED ON PREVIOUS ASSEMBLY | J 2 |
| Q209 | | INSTALLED ON PREVIOUS ASSEMBLY | J 3 |
| Q210 | | INSTALLED ON PREVIOUS ASSEMBLY | J 6 |
| Q211 | | INSTALLED ON PREVIOUS ASSEMBLY | J 4 |
| Q212 | | INSTALLED ON PREVIOUS ASSEMBLY | J 1 |
| Q213 | | INSTALLED ON PREVIOUS ASSEMBLY | J 3 |
| Q215 | C 7448-1 | MMBT3904 CHIP NPN | M 3 |
| Q500 | C 7448-1 | MMBT3904 CHIP NPN | L 1 |
| Q501 | C 7448-1 | MMBT3904 CHIP NPN | L 1 |
| Q600 | C 7448-1 | MMBT3904 CHIP NPN | N 1 |
| Q601 | C 7448-1 | MMBT3904 CHIP NPN | O 1 |
| Q700 | C10421-3 | FET, 60V N-CH 2N7002LT1 SOT-23 | B 9 |
| Q701 | C10421-3 | FET, 60V N-CH 2N7002LT1 SOT-23 | A 9 |
| Q702 | C 9258-2 | BS170RLRM N-MOSFET 60V T/A | B 9 |
| Q703 | 125798-1 | TRANSISTOR,MMBT3906LTI PNP SMT | D 4 |
| R1 | 101103-1 | PTC, 6.0 OHM 265V | D 2 |
| R2 | 101103-1 | PTC, 6.0 OHM 265V | C 2 |
| R3 | C10450-2 | .04 OHM 5W 3% WW VERT MNT | E 1 |
| R4 | C10450-2 | .04 OHM 5W 3% WW VERT MNT | E 2 |
| R5 | C10450-2 | .04 OHM 5W 3% WW VERT MNT | E 2 |
| R6 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | C 3 |
| R7 | A11368-10521 | 10.5K .10W 1% MF 0805 | E 3* |
| R8 | A11368-10521 | 10.5K .10W 1% MF 0805 | E 4* |
| R9 | A11368-27432 | 274K .125W 1% CHIP RES T/R | C 3 |
| R10 | A11368-10521 | 10.5K .10W 1% MF 0805 | E 7* |
| R11 | A11368-10521 | 10.5K .10W 1% MF 0805 | E 7* |
| R12 | A11368-24332 | 243KOHM .125W 1% CHIP RES T/R | A 3 |
| R13 | A11368-10521 | 10.5K .10W 1% MF 0805 | E 9* |
| R14 | A11368-10521 | 10.5K .10W 1% MF 0805 | E 8* |
| R15 | A11368-30112 | 3.01KOHM .125W 1% CHIP RES T/R | B 8 |
| R16 | | OPEN | B 10 |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| D701 | C 8369-8 | 1N747A 3.6V 5% ZENER .5W T/A | C 9 |
| E1 | 102476-1 | LED, SMT R/A GREEN | L 1 |
| E2 | 102477-1 | LED, SMT R/A RED | L 1 |
| E3 | 102477-1 | LED, SMT R/A RED | M 1 |
| E4 | 102476-1 | LED, SMT R/A GREEN | K 1 |
| E5 | 102476-1 | LED, SMT R/A GREEN | N 1 |
| E6 | 102477-1 | LED, SMT R/A RED | O 1 |
| E7 | 102477-1 | LED, SMT R/A RED | O 1 |
| FB1 | 100868-1 | FERRITE, 70 OHM 25% 1206 SMT | D 7* |
| FB2 | 100868-1 | FERRITE, 70 OHM 25% 1206 SMT | E 4* |
| FB3 | 100868-1 | FERRITE, 70 OHM 25% 1206 SMT | A 4* |
| HS1 | C 9918-1 | TO220 VERT CLIP-ON HEATSINK | D 7 |
| HS2 | 128009-1 | ASM, CE3000 PS PRIMARY HS | F 1 |
| HS3 | 128010-1 | ASM, CE3000 PS DIODE HS | F 10 |
| HS4 | 128011-1 | ASM, CE3000 BCA OUTPUT HS | H 7 |
| HS5 | 128011-1 | ASM, CE3000 BCA OUTPUT HS | H 1 |
| J1 | 101031-1 | .250 FASTON, AUTO INSERTABLE | D 1 |
| J2 | 101031-1 | .250 FASTON, AUTO INSERTABLE | D 1 |
| J3 | 101031-1 | .250 FASTON, AUTO INSERTABLE | K 8 |
| J4 | 101571-1 | HDR, 2 POS .1 CTR MTA SHRD | H 14 |
| J5 | 127563-3 | PWA, CE4000 POT BOARD | O 2 |
| J6 | 130640-1 | HEADER,3M LATCH 26 PIN .1X.1 | Q 2 |
| J7 | | OPEN | Q 6 |
| J8 | | OPEN | K 14 |
| J9 | A10020-34 | 6-32 X .375 PCB CAPTIVE STUD | K 14 |
| J11 | 101031-1 | .250 FASTON, AUTO INSERTABLE | M 8 |
| J12 | 101031-1 | .250 FASTON, AUTO INSERTABLE | N 8 |
| J13 | 101031-1 | .250 FASTON, AUTO INSERTABLE | K 11 |
| J14 | 101031-1 | .250 FASTON, AUTO INSERTABLE | K 5 |
| J15 | 101031-1 | .250 FASTON, AUTO INSERTABLE | O 8 |
| J16 | 101031-1 | .250 FASTON, AUTO INSERTABLE | P 8 |
| J17 | 101031-1 | .250 FASTON, AUTO INSERTABLE | K 2 |
| J18 | | OPEN | M 14 |
| J19 | A10020-34 | 6-32 X .375 PCB CAPTIVE STUD | L 14 |
| J20 | | OPEN | M 1 |
| J21 | | OPEN | O 1 |
| J22 | 101031-1 | .250 FASTON, AUTO INSERTABLE | E 4 |
| J23 | 101031-1 | .250 FASTON, AUTO INSERTABLE | D 2 |
| J24 | 127030-1 | CONN, 7 PIN RECEPTACLE | A 7 |
| J25 | 127031-1 | CONN, 15 PIN RECEPTACLE | A 10 |
| J26 | 101031-1 | .250 FASTON, AUTO INSERTABLE | C 2 |
| J27 | 101031-1 | .250 FASTON, AUTO INSERTABLE | B 2 |
| J28 | 101031-1 | .250 FASTON, AUTO INSERTABLE | B 2 |
| J29 | 101031-1 | .250 FASTON, AUTO INSERTABLE | B 2 |
| J30 | | OPEN | Q 5 |
| K1 | 128135-1 | RELAY, 30A 250V 12VCOIL PCB MT | C 2 |
| L1 | 127988-1 | CHOKE,10UH <0.1OHM SMT .3" DIA | I 13 |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R17 | A11371-5R12 | 5.1OHM 0.125W 5% 1206 T/R | E 7* |
| R18 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | D 4 |
| R19 | A10266-5141 | 510. KOHM .25W 5% CF T/R | D 2 |
| R1X | C 8982-8 | TO-220 XSISTOR HOLDER, PLASTIC | D 2 |
| R20 | A10266-5141 | 510. KOHM .25W 5% CF T/R | E 3 |
| R21 | A11368-15831 | 158KOHM .1W 1% 0805 T/R | E 3 |
| R22 | A10265-45331 | 453 KOHM .25W 1% MF T/R | D 2 |
| R23 | A10265-45331 | 453 KOHM .25W 1% MF T/R | E 3 |
| R24 | A11368-12132 | 121KOHM .125W 1% CHIP RES T/R | D 3* |
| R25 | A10265-68131 | 681KOHM .25W 1% MF T/R | D 4 |
| R26 | A10265-68131 | 681KOHM .25W 1% MF T/R | D 4 |
| R27 | A10265-39231 | 392 KOHM .25W 1% MF T/R | C 4 |
| R28 | A10265-39231 | 392 KOHM .25W 1% MF T/R | C 4 |
| R29 | A11368-33R21 | 33.2 OHM 1% 0805 RES T/R | C 3 |
| R2X | C 8982-8 | TO-220 XSISTOR HOLDER, PLASTIC | C 2 |
| R30 | A11368-16221 | 16.2KOHM .1W 1% 0805 T/R | D 4* |
| R31 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | C 4* |
| R32 | A11368-10R03 | 10 OHM 0.25W 1% 1210 T/R | E 4 |
| R33 | A11368-1R004 | 1 OHM 0.5W 1% 2010 T/R | E 3* |
| R34 | A11368-1R004 | 1 OHM 0.5W 1% 2010 T/R | E 4* |
| R35 | A11368-27432 | 274K .125W 1% CHIP RES T/R | B 3 |
| R36 | A11368-37401 | 374. OHM 1/10W 1% SMD 0805 T/R | D 4* |
| R37 | A11371-1002 | 10.OHM 1/8W 5% SMD 1206 T/R | D 4 |
| R38 | A11368-40212 | 4.02KOHM .125W 1% CHIP RES T/R | D 4* |
| R39 | A11368-57621 | 57.6KOHM 0.1W 1% 0805 T/R | D 4* |
| R40 | A11368-40212 | 4.02KOHM .125W 1% CHIP RES T/R | D 4 |
| R41 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | D 3 |
| R42 | 126564-1 | 30OHM 10W 5% VERT THICK FILM | I 14 |
| R43 | A11368-10001 | 100 OHM 1% 0805 RES T/R | M 6* |
| R44 | A11371-5R12 | 5.1OHM 0.125W 5% 1206 T/R | E 7* |
| R45 | A11371-5R12 | 5.1OHM 0.125W 5% 1206 T/R | E 8* |
| R46 | A11371-5R12 | 5.1OHM 0.125W 5% 1206 T/R | E 9* |
| R47 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 8 |
| R48 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | B 9 |
| R49 | A11368-82511 | 8.25KOHM .1W 1% CHIP 0805 | B 8 |
| R50 | A11368-12131 | 121KOHM, 0.10W 1% CHIP 0805 | C 8* |
| R51 | A11368-90921 | 90.9K, 0.10W 1% MF 0805 | C 8 |
| R52 | A11368-15421 | 15.4K 1/10W 1% SMD 0805 T/R | C 8 |
| R53 | A11368-15421 | 15.4K 1/10W 1% SMD 0805 T/R | C 7 |
| R54 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | C 8 |
| R55 | A11368-33R21 | 33.2 OHM 1% 0805 RES T/R | B 3 |
| R56 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | B 3* |
| R57 | A11368-27432 | 274K .125W 1% CHIP RES T/R | B 4 |
| R58 | A11368-33R21 | 33.2 OHM 1% 0805 RES T/R | B 3 |
| R59 | A11368-10001 | 100 OHM 1% 0805 RES T/R | D 8 |
| R60 | A11368-1R001 | 1 OHM .1W 1% 0805 T/R | D 8 |
| R61 | A11368-33R21 | 33.2 OHM 1% 0805 RES T/R | B 3* |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R62 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | A 8 |
| R63 | A11368-10001 | 100 OHM 1% 0805 RES T/R | M 2* |
| R65 | A11368-68131 | 681KOHM .1W 1% 0805 T/R | B 7 |
| R66 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | B 7 |
| R67 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | M 7* |
| R68 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | N 7* |
| R69 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | O 7* |
| R70 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | P 7* |
| R71 | A11368-10001 | 100 OHM 1% 0805 RES T/R | M 6* |
| R72 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 4 |
| R73 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | A 3 |
| R74 | A11368-60411 | 6.04KOHM .1W 1% 0805 T/R | L 3* |
| R75 | | OPEN | A 11 |
| R76 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | B 3 |
| R77 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 3 |
| R78 | A10265-12731 | 127 KOHM .25W 1 MF T/R | A 2 |
| R79 | A10265-12731 | 127 KOHM .25W 1 MF T/R | A 2 |
| R80 | A11371-8211 | 820 OHM .1W 5% 0805 T/R | D 4 |
| R81 | A11368-18202 | 182 OHM .125W 1% 1206 T/R | B 7 |
| R82 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | B 3 |
| R83 | A10266-3902 | 39.0 OHM .5W 5% CF T/R | C 2 |
| R84 | A11368-71531 | 715K 0.1W 1% 0805 T/R | L 8 |
| R85 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | B 8 |
| R86 | A11371-3905 | 39 OHM 1W 5% 2512 T/R | I 14* |
| R87 | A11371-1052 | 1. MOHM .125W 5% CHIP RES T/R | H 13 |
| R88 | A11368-51111 | 5.11KOHM .1W 1% 0805 T/R | H 13 |
| R90 | A11368-39231 | 392 KOHM .1W 1% 0805 T/R | O 1* |
| R91 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | B 10 |
| R92 | A11368-49901 | 499 OHM .1W 1% 0805 T/R | B 7 |
| R93 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | O 1* |
| R94 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | C 7* |
| R95 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 7 |
| R98 | A11368-30101 | 301 OHM .1W 1% 0805 T/R | A 4* |
| R99 | A11368-49921 | 49.9KOHM .1W 1% CHIP 0805 | B 4 |
| R100 | A11368-39224 | 39.2K 0.5W 1% 2010 T/R | N 13 |
| R101 | A11368-17811 | 1.78K 0.1W 1% 0805 SMD T/R | P 5* |
| R102 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 5* |
| R103 | A11368-11021 | 11K 0.1W 1% 0805 T/R | P 5* |
| R104 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 5* |
| R105 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 5* |
| R106 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | P 5* |
| R107 | A11368-23221 | 23.2KOHM .1W 1% 0805 T/R | O 6* |
| R108 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | P 6 |
| R109 | A11368-75011 | 7.50K .10W 1% CHIP 0805 | O 6 |
| R110 | A11368-23201 | 232OHM .1W 1% 0805 T/R | N 7 |
| R111 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 6* |
| R112 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | O 6 |
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| A | 126218-13 | A |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R62 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | A 8 |
| R63 | A11368-10001 | 100 OHM 1% 0805 RES T/R | M 2* |
| R65 | A11368-68131 | 681KOHM .1W 1% 0805 T/R | B 7 |
| R66 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | B 7 |
| R67 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | M 7* |
| R68 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | N 7* |
| R69 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | O 7* |
| R70 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | P 7* |
| R71 | A11368-10001 | 100 OHM 1% 0805 RES T/R | M 6* |
| R72 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 4 |
| R73 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | A 3 |
| R74 | A11368-60411 | 6.04KOHM .1W 1% 0805 T/R | L 3* |
| R75 | | OPEN | A 11 |
| R76 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | B 3 |
| R77 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 3 |
| R78 | A10265-12731 | 127 KOHM .25W 1 MF T/R | A 2 |
| R79 | A10265-12731 | 127 KOHM .25W 1 MF T/R | A 2 |
| R80 | A11371-8211 | 820 OHM .1W 5% 0805 T/R | D 4 |
| R81 | A11368-18202 | 182 OHM .125W 1% 1206 T/R | B 7 |
| R82 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | B 3 |
| R83 | A10266-3902 | 39.0 OHM .5W 5% CF T/R | C 2 |
| R84 | A11368-71531 | 715K 0.1W 1% 0805 T/R | L 8 |
| R85 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | B 8 |
| R86 | A11371-3905 | 39 OHM 1W 5% 2512 T/R | I 14* |
| R87 | A11371-1052 | 1. MOHM .125W 5% CHIP RES T/R | H 13 |
| R88 | A11368-51111 | 5.11KOHM .1W 1% 0805 T/R | H 13 |
| R90 | A11368-39231 | 392 KOHM .1W 1% 0805 T/R | O 1* |
| R91 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | B 10 |
| R92 | A11368-49901 | 499 OHM .1W 1% 0805 T/R | B 7 |
| R93 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | O 1* |
| R94 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | C 7* |
| R95 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 7 |
| R98 | A11368-30101 | 301 OHM .1W 1% 0805 T/R | A 4* |
| R99 | A11368-49921 | 49.9KOHM .1W 1% CHIP 0805 | B 4 |
| R100 | A11368-39224 | 39.2K 0.5W 1% 2010 T/R | N 13 |
| R101 | A11368-17811 | 1.78K 0.1W 1% 0805 SMD T/R | P 5* |
| R102 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 5* |
| R103 | A11368-11021 | 11K 0.1W 1% 0805 T/R | P 5* |
| R104 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 5* |
| R105 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 5* |
| R106 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | P 5* |
| R107 | A11368-23221 | 23.2KOHM .1W 1% 0805 T/R | O 6* |
| R108 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | P 6 |
| R109 | A11368-75011 | 7.50K .10W 1% CHIP 0805 | O 6 |
| R110 | A11368-23201 | 232OHM .1W 1% 0805 T/R | N 7 |
| R111 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 6* |
| R112 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | O 6 |
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| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R113 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | O 5 |
| R114 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | N 6 |
| R115 | 127682-1 | 4.99K 0.1% 1206 THIN FILM T/R | P 5* |
| R116 | 127682-1 | 4.99K 0.1% 1206 THIN FILM T/R | P 5* |
| R117 | 127682-1 | 4.99K 0.1% 1206 THIN FILM T/R | O 6* |
| R118 | A11368-48711 | 4.87K OHM .10W 1% 0805 | O 5* |
| R119 | A11368-84511 | 8.45K 0.1W 1% 0805 T/R | O 5* |
| R120 | A11368-84511 | 8.45K 0.1W 1% 0805 T/R | O 5* |
| R121 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 6* |
| R122 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 6* |
| R123 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 6* |
| R124 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 6* |
| R125 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 6* |
| R126 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 6* |
| R127 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 6* |
| R128 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 1* |
| R129 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 6* |
| R130 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 5* |
| R131 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | O 5* |
| R132 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 5* |
| R133 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 6* |
| R134 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | O 6* |
| R135 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 5 |
| R136 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 5 |
| R137 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 6 |
| R138 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 6 |
| R139 | A11368-33R21 | 33.2 OHM 1% 0805 RES T/R | N 7 |
| R140 | A11368-1R004 | 1 OHM 0.5W 1% 2010 T/R | N 7 |
| R141 | A11368-10711 | 1.07KOHM .1W 1% 0805 T/R | N 6 |
| R142 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | M 11 |
| R143 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | M 11 |
| R144 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | M 12* |
| R145 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | M 13* |
| R146 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | N 13* |
| R147 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | N 12* |
| R148 | A11368-10013 | 1K 0.25W 1% 1210 T/R | M 12 |
| R149 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | N 13 |
| R150 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | N 13 |
| R151 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 2* |
| R152 | | OPEN | N 12 |
| R153 | | OPEN | N 12 |
| R154 | A11368-15031 | 150K 1/10W 1% SMD 0805 T/R | N 6 |
| R155 | A11368-10001 | 100 OHM 1% 0805 RES T/R | N 6 |
| R156 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | N 6 |
| R157 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 6 |
| R158 | A11368-12741 | 1.27MOHM .1W 1% 0805 T/R | N 6 |
| R159 | A11368-51111 | 5.11K 1/10W 1% SMD 0805 T/R | N 7 |
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| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R160 | C10540-0 | 10.KOHM TOP ADJUST TRIMMER T/R | M 6 |
| R161 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | M 7* |
| R162 | A11368-30111 | 3.01K 1/10W 1% SMD 0805 T/R | M 7* |
| R163 | A11368-47511 | 4.75KOHM 0.10W 1% CHIP 0805 | M 7* |
| R164 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | N 7* |
| R165 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | N 7* |
| R166 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | M 7* |
| R167 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | N 7* |
| R168 | A11368-44221 | 44.2K 0.1W 1% 0805 T/R | N 6* |
| R169 | A11368-26111 | 2.61K 0.1W 1% 0805 T/R | N 6* |
| R170 | C 9779-7 | 100KOHM 4MM CERMET TRIM SMT TR | N 5 |
| R171 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | N 6* |
| R172 | A11368-10001 | 100 OHM 1% 0805 RES T/R | N 6* |
| R173 | A11368-10001 | 100 OHM 1% 0805 RES T/R | N 6* |
| R174 | A11368-10531 | 105KOHM .1W 1% 0805 T/R | O 4* |
| R175 | A11368-19111 | 1.91KOHM .1W 1% 0805 T/R | O 4* |
| R176 | A11368-19111 | 1.91KOHM .1W 1% 0805 T/R | O 5* |
| R177 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 5* |
| R178 | C 9777-1 | 1 KOHM 4MM CERMET TRIM SMT T/R | O 5 |
| R179 | A11368-13011 | 1.3KOHM .1W 1% 0805 T/R | O 5 |
| R180 | A11368-25511 | 2.55KOHM .1W 1% 0805 T/R | O 5* |
| R181 | A11368-15011 | 1.5K 1/10W 1% SMD 0805 T/R | O 5* |
| R182 | A11368-16221 | 16.2KOHM .1W 1% 0805 T/R | O 5* |
| R183 | A11368-22111 | 2.21KOHM .1W 1% CHIP 0805 | O 5* |
| R184 | A11368-82511 | 8.25KOHM .1W 1% CHIP 0805 | O 5* |
| R185 | A11368-42211 | 4.22KOHM .1W 1% 0805 T/R | O 5* |
| R186 | A11368-25511 | 2.55KOHM .1W 1% 0805 T/R | O 5* |
| R187 | A11368-60411 | 6.04KOHM .1W 1% 0805 T/R | O 5* |
| R188 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 6* |
| R189 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 6* |
| R190 | A11371-1842 | 180.KOHM .125W 5% CHIP RES T/R | N 2* |
| R191 | A11368-39231 | 392 KOHM .1W 1% 0805 T/R | N 2* |
| R192 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | N 2 |
| R193 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | O 2 |
| R194 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | P 5* |
| R195 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 6* |
| R196 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 6* |
| R197 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 6* |
| R198 | A11368-71531 | 715K 0.1W 1% 0805 T/R | N 12 |
| R199 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | M 5* |
| R200 | A11368-39224 | 39.2K 0.5W 1% 2010 T/R | O 13 |
| R201 | A11368-17811 | 1.78K 0.1W 1% 0805 SMD T/R | P 3* |
| R202 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 3* |
| R203 | A11368-11021 | 11K 0.1W 1% 0805 T/R | P 3* |
| R204 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 3* |
| R205 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 3* |
| R206 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | P 3* |
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| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R207 | A11368-23221 | 23.2KOHM .1W 1% 0805 T/R | O 3* |
| R208 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | P 4 |
| R209 | A11368-75011 | 7.50K .10W 1% CHIP 0805 | O 4 |
| R210 | A11368-23201 | 232OHM .1W 1% 0805 T/R | O 7 |
| R211 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 4* |
| R212 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | O 4 |
| R213 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | O 4 |
| R214 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | N 5 |
| R215 | 127682-1 | 4.99K 0.1% 1206 THIN FILM T/R | P 3* |
| R216 | 127682-1 | 4.99K 0.1% 1206 THIN FILM T/R | P 3* |
| R217 | 127682-1 | 4.99K 0.1% 1206 THIN FILM T/R | O 4* |
| R218 | A11368-48711 | 4.87K OHM .10W 1% 0805 | O 4* |
| R219 | A11368-84511 | 8.45K 0.1W 1% 0805 T/R | O 4* |
| R220 | A11368-84511 | 8.45K 0.1W 1% 0805 T/R | O 3* |
| R221 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 4* |
| R222 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 4* |
| R223 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 4* |
| R224 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 4* |
| R225 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 4* |
| R226 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 4* |
| R227 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 4* |
| R229 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 4* |
| R230 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 4* |
| R231 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | O 4* |
| R232 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 4* |
| R233 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 3* |
| R234 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | O 3* |
| R235 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 4 |
| R236 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 4 |
| R237 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 3 |
| R238 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 3 |
| R239 | A11368-33R21 | 33.2 OHM 1% 0805 RES T/R | O 7 |
| R240 | A11368-1R004 | 1 OHM 0.5W 1% 2010 T/R | O 7 |
| R241 | A11368-10711 | 1.07KOHM .1W 1% 0805 T/R | O 6 |
| R242 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | P 11 |
| R243 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | P 11 |
| R244 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | O 12* |
| R245 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | O 13* |
| R246 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | P 13* |
| R247 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | P 12* |
| R248 | A11368-10013 | 1K 0.25W 1% 1210 T/R | O 12 |
| R249 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | O 13 |
| R250 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | O 13 |
| R252 | | OPEN | O 12 |
| R253 | | OPEN | O 12 |
| R254 | A11368-15031 | 150K 1/10W 1% SMD 0805 T/R | O 6 |
| R255 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 6 |

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| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R256 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | O 6 |
| R257 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | O 6 |
| R258 | A11368-12741 | 1.27MOHM .1W 1% 0805 T/R | O 6 |
| R259 | A11368-51111 | 5.11K 1/10W 1% SMD 0805 T/R | O 7 |
| R260 | C10540-0 | 10.KOHM TOP ADJUST TRIMMER T/R | P 6 |
| R261 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | P 7* |
| R262 | A11368-30111 | 3.01K 1/10W 1% SMD 0805 T/R | O 7* |
| R263 | A11368-47511 | 4.75KOHM 0.10W 1% CHIP 0805 | O 7* |
| R264 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | P 7* |
| R265 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 7* |
| R266 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | O 7* |
| R267 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 7* |
| R268 | A11368-44221 | 44.2K 0.1W 1% 0805 T/R | N 4* |
| R269 | A11368-26111 | 2.61K 0.1W 1% 0805 T/R | N 4* |
| R270 | C 9779-7 | 100KOHM 4MM CERMET TRIM SMT TR | N 3 |
| R271 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | N 4* |
| R272 | A11368-10001 | 100 OHM 1% 0805 RES T/R | N 4* |
| R273 | A11368-10001 | 100 OHM 1% 0805 RES T/R | N 4* |
| R274 | A11368-10531 | 105KOHM .1W 1% 0805 T/R | O 3* |
| R275 | A11368-19111 | 1.91KOHM .1W 1% 0805 T/R | O 3* |
| R276 | A11368-19111 | 1.91KOHM .1W 1% 0805 T/R | O 3* |
| R277 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 3* |
| R278 | C 9777-1 | 1 KOHM 4MM CERMET TRIM SMT T/R | O 3 |
| R279 | A11368-13011 | 1.3KOHM .1W 1% 0805 T/R | O 3 |
| R280 | A11368-25511 | 2.55KOHM .1W 1% 0805 T/R | O 3* |
| R281 | A11368-15011 | 1.5K 1/10W 1% SMD 0805 T/R | O 3* |
| R282 | A11368-16221 | 16.2KOHM .1W 1% 0805 T/R | O 3* |
| R283 | A11368-22111 | 2.21KOHM .1W 1% CHIP 0805 | O 3* |
| R284 | A11368-82511 | 8.25KOHM .1W 1% CHIP 0805 | O 3* |
| R285 | A11368-42211 | 4.22KOHM .1W 1% 0805 T/R | O 3* |
| R286 | A11368-25511 | 2.55KOHM .1W 1% 0805 T/R | O 3* |
| R287 | A11368-60411 | 6.04KOHM .1W 1% 0805 T/R | O 3* |
| R288 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 4* |
| R289 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 4* |
| R290 | A11368-49921 | 49.9KOHM .1W 1% CHIP 0805 | O 1 |
| R291 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | O 1* |
| R292 | A11371-6814 | 680 OHM .5W 5% 2010 T/R | M 1 |
| R293 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | O 1* |
| R294 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | P 3* |
| R295 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 4* |
| R296 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 4* |
| R297 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 4* |
| R298 | A11368-71531 | 715K 0.1W 1% 0805 T/R | O 12 |
| R299 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | N 3* |
| R300 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | L 3* |
| R301 | | OPEN | P 5* |
| R302 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | L 3* |
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| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126218-13 | A |

SCALE NONE | PROJ NO. MD425D0 | SHEET 30 OF 48

PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R303 | A11368-61902 | 619 OHM .125W 1% CHIP RES T/R | M 5* |
| R304 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | M 5* |
| R305 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | M 5* |
| R307 | A11368-49921 | 49.9KOHM .1W 1% CHIP 0805 | O 1 |
| R308 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | O 1* |
| R309 | A11368-75023 | 75K OHM .25W 1% 1210 | M 4* |
| R310 | A11368-13011 | 1.3KOHM .1W 1% 0805 T/R | M 4* |
| R311 | A11368-33223 | 33.2KOHM 0.25W 1% 1210 T/R | M 4* |
| R312 | A11368-82521 | 82.5K 0.10W 1%CHIP 0805 | M 4* |
| R313 | A11368-39231 | 392 KOHM .1W 1% 0805 T/R | O 1* |
| R314 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | M 4 |
| R315 | A11368-75023 | 75K OHM .25W 1% 1210 | M 3* |
| R316 | A11368-13011 | 1.3KOHM .1W 1% 0805 T/R | M 3* |
| R317 | A11371-3041 | 300.KOHM .1W 5% CHIP 0805 | L 8 |
| R318 | A11368-30121 | 30.1K, 0.10W 1% MF 0805 | L 8 |
| R319 | A11368-63411 | 6.34K 0.10W 1% CHIP 0805 | M 3* |
| R320 | A11368-75023 | 75K OHM .25W 1% 1210 | M 4* |
| R321 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | L 8 |
| R322 | A11368-11021 | 11K 0.1W 1% 0805 T/R | L 8 |
| R323 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | L 8 |
| R324 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | I 13 |
| R325 | 126564-1 | 30OHM 10W 5% VERT THICK FILM | I 14 |
| R326 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 4 |
| R327 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 3 |
| R328 | | OPEN | M 8 |
| R329 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | L 8 |
| R330 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | L 8 |
| R331 | A11368-84511 | 8.45K 0.1W 1% 0805 T/R | L 8 |
| R332 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | I 13 |
| R333 | A11371-3905 | 39 OHM 1W 5% 2512 T/R | I 14* |
| R334 | A11371-3905 | 39 OHM 1W 5% 2512 T/R | I 14* |
| R335 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | L 8 |
| R336 | A11368-19621 | 19.6K OHM .1W 1% 0805 T/R | L 8 |
| R337 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | L 8 |
| R338 | A11368-75011 | 7.50K .10W 1% CHIP 0805 | B 8 |
| R339 | A11368-60411 | 6.04KOHM .1W 1% 0805 T/R | L 11* |
| R340 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | M 4* |
| R341 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | N 4* |
| R342 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 4* |
| R343 | A11368-61901 | 619.OHM 1/10W 1% SMD 0805 T/R | N 2* |
| R344 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | N 2* |
| R345 | A11368-90921 | 90.9K, 0.10W 1% MF 0805 | N 2* |
| R346 | A11371-5141 | 510.KOHM .1W 5% CHIP 0805 | N 2* |
| R347 | A11368-33231 | 332K 0.1W 1% 0805 T/R | O 2* |
| R348 | A11368-22111 | 2.21KOHM .1W 1% CHIP 0805 | P 2 |
| R349 | A11368-14031 | 140KOHM .1W 1% 0805 T/R | P 2 |
| R350 | A11368-22111 | 2.21KOHM .1W 1% CHIP 0805 | P 2 |
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|---|---|---|---|
| A | 126218-13 | | A |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R351 | A11368-14031 | 140KOHM .1W 1% 0805 T/R | P 2 |
| R352 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 9 |
| R353 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 9 |
| R354 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | K 9 |
| R355 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 8* |
| R356 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 8* |
| R357 | A11371-1104 | RES 11.0 OHM .5W SMT | J 9 |
| R358 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 9* |
| R359 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 9* |
| R360 | A11371-1104 | RES 11.0 OHM .5W SMT | J 8 |
| R361 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | M 8 |
| R362 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | N 8 |
| R363 | 126564-1 | 30OHM 10W 5% VERT THICK FILM | N 10 |
| R364 | 126564-1 | 30OHM 10W 5% VERT THICK FILM | N 9 |
| R365 | A11371-1104 | RES 11.0 OHM .5W SMT | J 12 |
| R366 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 12* |
| R367 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 12* |
| R368 | A11371-1104 | RES 11.0 OHM .5W SMT | J 10 |
| R369 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 11* |
| R370 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 11* |
| R371 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | K 11 |
| R372 | A11371-1104 | RES 11.0 OHM .5W SMT | K 12 |
| R373 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 11 |
| R374 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 11 |
| R375 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 9* |
| R376 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 7* |
| R377 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 12* |
| R378 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 10* |
| R379 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 9* |
| R380 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 12* |
| R381 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 8* |
| R382 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 11* |
| R383 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | M 8 |
| R384 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | N 8 |
| R385 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | N 6* |
| R386 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | N 6* |
| R387 | A11371-1104 | RES 11.0 OHM .5W SMT | J 7 |
| R388 | | OPEN | P 5* |
| R389 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 6* |
| R390 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 6* |
| R391 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 5* |
| R392 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 5* |
| R393 | A11371-1104 | RES 11.0 OHM .5W SMT | M 7 |
| R394 | A11371-1104 | RES 11.0 OHM .5W SMT | M 7 |
| R395 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | N 6* |
| R396 | A11368-44221 | 44.2K 0.1W 1% 0805 T/R | P 5* |
| R397 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 6* |
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SIZE A | DWG NO. 126218-13 | REV A

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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R398 | A11368-28011 | 2.80KOHM .10W 1% MF 0805 | P 5* |
| R399 | A11368-23221 | 23.2KOHM .1W 1% 0805 T/R | O 5* |
| R400 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 1* |
| R401 | A11371-6814 | 680 OHM .5W 5% 2010 T/R | O 1 |
| R403 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | C 8 |
| R404 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | A 7 |
| R405 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | A 8 |
| R407 | A11368-15013 | 1.5KOHM .25W 1% 1210 T/R | K 1 |
| R408 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 4* |
| R409 | | OPEN | B 9 |
| R410 | A11368-49901 | 499 OHM .1W 1% 0805 T/R | N 2 |
| R411 | A11368-33223 | 33.2KOHM 0.25W 1% 1210 T/R | M 2* |
| R412 | A11368-82521 | 82.5K 0.10W 1%CHIP 0805 | M 2* |
| R414 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | M 2 |
| R415 | | OPEN | P 4* |
| R417 | A11371-3041 | 300.KOHM .1W 5% CHIP 0805 | M 3* |
| R418 | A11368-30121 | 30.1K, 0.10W 1% MF 0805 | N 3* |
| R419 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 8 |
| R420 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | B 8 |
| R422 | | OPEN | P 4* |
| R424 | A11368-22621 | 22.6K OHM .1W 1% 0805 T/R | D 4 |
| R425 | A11368-49921 | 49.9KOHM .1W 1% CHIP 0805 | A 4 |
| R426 | | OPEN | A 10 |
| R427 | | OPEN | B 10 |
| R428 | | OPEN | B 10 |
| R429 | | OPEN | B 10 |
| R430 | | OPEN | B 11 |
| R431 | | OPEN | B 11 |
| R432 | | OPEN | B 11 |
| R433 | | OPEN | B 11 |
| R434 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 7 |
| R435 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | A 7 |
| R436 | A11368-49901 | 499 OHM .1W 1% 0805 T/R | O 2 |
| R437 | A11368-10001 | 100 OHM 1% 0805 RES T/R | C 3* |
| R438 | A11368-10001 | 100 OHM 1% 0805 RES T/R | D 3* |
| R439 | A11368-10001 | 100 OHM 1% 0805 RES T/R | C 7* |
| R440 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | M 3* |
| R441 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | N 3* |
| R442 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 3* |
| R443 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | N 2* |
| R444 | A11368-61901 | 619.OHM 1/10W 1% SMD 0805 T/R | N 2* |
| R445 | A11368-90921 | 90.9K, 0.10W 1% MF 0805 | N 2* |
| R446 | A11371-5141 | 510.KOHM .1W 5% CHIP 0805 | N 2* |
| R447 | A11368-33231 | 332K 0.1W 1% 0805 T/R | O 2* |
| R448 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | C 7 |
| R449 | A11368-42211 | 4.22KOHM .1W 1% 0805 T/R | C 8 |
| R450 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | C 8 |
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| SIZE | DWG NO. | REV |
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| A | 126218-13 | A |

SCALE NONE | PROJ NO. MD425D0 | SHEET 33 OF 48

| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| R451 | A10266-3041 | 300.KOHM .25W 5% CF T/R | A 2 |
| R452 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 5 |
| R453 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 5 |
| R454 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | K 5 |
| R455 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 6* |
| R456 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 6* |
| R457 | A11371-1104 | RES 11.0 OHM .5W SMT | J 4 |
| R458 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 5* |
| R459 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 5* |
| R460 | A11371-1104 | RES 11.0 OHM .5W SMT | J 6 |
| R461 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | O 8 |
| R462 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | P 8 |
| R463 | 126564-1 | 30OHM 10W 5% VERT THICK FILM | O 10 |
| R464 | 126564-1 | 30OHM 10W 5% VERT THICK FILM | O 9 |
| R465 | A11371-1104 | RES 11.0 OHM .5W SMT | J 2 |
| R466 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 2* |
| R467 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 2* |
| R468 | A11371-1104 | RES 11.0 OHM .5W SMT | J 3 |
| R469 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 3* |
| R470 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 3* |
| R471 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | K 2 |
| R472 | A11371-1104 | RES 11.0 OHM .5W SMT | K 1 |
| R473 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 3 |
| R474 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 3 |
| R475 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 5* |
| R476 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 6* |
| R477 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 2* |
| R478 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 3* |
| R479 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 4* |
| R480 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 2* |
| R481 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 5* |
| R482 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 3* |
| R483 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | O 8 |
| R484 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | P 8 |
| R485 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | N 4* |
| R486 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | N 4* |
| R487 | A10266-3041 | 300.KOHM .25W 5% CF T/R | B 6 |
| R488 | A11368-17811 | 1.78K 0.1W 1% 0805 SMD T/R | B 9 |
| R489 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 4* |
| R490 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 3* |
| R491 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 4* |
| R492 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 4* |
| R493 | A11371-1104 | RES 11.0 OHM .5W SMT | M 7 |
| R494 | A11371-1104 | RES 11.0 OHM .5W SMT | M 7 |
| R495 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | N 4* |
| R496 | A11368-44221 | 44.2K 0.1W 1% 0805 T/R | P 3* |
| R497 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 4* |
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| A | 126218-13 | | A |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R498 | A11368-28011 | 2.80KOHM .10W 1% MF 0805 | P 3* |
| R499 | A11368-23221 | 23.2KOHM .1W 1% 0805 T/R | O 4* |
| R500 | A11368-49931 | 499KOHM .1W 1% 0805 T/R | C 8* |
| R501 | A11371-0R02 | 0. OHM .125W 5% CHIP RES T/R | E 7 |
| R502 | A10266-5141 | 510. KOHM .25W 5% CF T/R | D 2 |
| R503 | A10266-5141 | 510. KOHM .25W 5% CF T/R | D 2 |
| R504 | | OPEN | D 3 |
| R505 | A10266-2751 | 2.7 MOHM .25W 5% CF T/R | B 5 |
| R506 | A10266-2441 | 240. KOHM .25W 5% CF T/R | D 14 |
| R507 | A10266-2441 | 240. KOHM .25W 5% CF T/R | C 14 |
| R508 | A11371-3905 | 39 OHM 1W 5% 2512 T/R | J 14* |
| R509 | A11371-3905 | 39 OHM 1W 5% 2512 T/R | J 14* |
| R510 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | D 4 |
| R511 | A11368-78711 | 7.87K OHM 0.10W 1% 0805 T/R | D 4 |
| R512 | A11371-1222 | 1.2KOHM 1/8W 5% SMD 1206 T/R | D 4 |
| R513 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | D 4 |
| R514 | A11371-1331 | 13KOHM .1W 5% 0805 T/R | D 4 |
| R515 | A11368-30111 | 3.01K 1/10W 1% SMD 0805 T/R | D 4 |
| R516 | | OPEN | D 4* |
| R517 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | M 4 |
| R518 | A11368-30111 | 3.01K 1/10W 1% SMD 0805 T/R | M 4 |
| R519 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | M 6 |
| R522 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 5 |
| R523 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | A 9* |
| R524 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | A 9* |
| R525 | A11368-27432 | 274K .125W 1% CHIP RES T/R | A 9* |
| R526 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | A 9 |
| R527 | A11368-17811 | 1.78K 0.1W 1% 0805 SMD T/R | B 9* |
| R528 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | B 9 |
| R529 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | B 9* |
| R530 | A11368-30111 | 3.01K 1/10W 1% SMD 0805 T/R | B 9* |
| R531 | A11368-30121 | 30.1K, 0.10W 1% MF 0805 | C 8* |
| R532 | A11368-10001 | 100 OHM 1% 0805 RES T/R | A 3 |
| R533 | | OPEN | A 3* |
| R534 | A11368-49921 | 49.9KOHM .1W 1% CHIP 0805 | A 3 |
| R535 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | M 5 |
| R536 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | M 5* |
| R537 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | M 5* |
| R538 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | M 5 |
| R539 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | D 8 |
| R540 | A11368-15021 | 15.0K, 0.10W 1% MF 0805 | D 8* |
| R541 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | D 8 |
| R542 | | OPEN | D 8* |
| R543 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | D 8* |
| R544 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | C 8 |
| R545 | A11368-12121 | 12.1KOHM .1W 1% 0805 T/R | C 8 |
| R546 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | D 8 |
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|---|---|---|
| A | 126218-13 | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 35 OF 48 |

PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R547 | A11371-0R02 | 0. OHM .125W 5% CHIP RES T/R | E 7 |
| R548 | A11371-0R02 | 0. OHM .125W 5% CHIP RES T/R | E 9 |
| R549 | A11371-0R02 | 0. OHM .125W 5% CHIP RES T/R | E 8 |
| R550 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | M 2* |
| R557 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 1 |
| R558 | A11368-39231 | 392 KOHM .1W 1% 0805 T/R | N 1* |
| R559 | A11368-49902 | 499 OHM .125W 1% 1206 T/R | N 1* |
| R560 | | OPEN | N 1* |
| R561 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | L 1* |
| R562 | A11371-2724 | 2.7 KOHM .5W 5% 2010 T/R | L 1 |
| R563 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | O 1* |
| R564 | | OPEN | N 1* |
| R565 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 2* |
| R566 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | L 1* |
| R567 | A11371-2724 | 2.7 KOHM .5W 5% 2010 T/R | L 1 |
| R657 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 1 |
| R658 | A11368-39231 | 392 KOHM .1W 1% 0805 T/R | N 1* |
| R659 | A11368-49902 | 499 OHM .125W 1% 1206 T/R | N 1* |
| R660 | | OPEN | N 1* |
| R661 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 1* |
| R662 | A11371-2724 | 2.7 KOHM .5W 5% 2010 T/R | N 1 |
| R663 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | N 1* |
| R664 | | OPEN | O 1* |
| R665 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | O 2* |
| R666 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | O 1* |
| R667 | A11371-2724 | 2.7 KOHM .5W 5% 2010 T/R | O 1 |
| R700 | A11368-15013 | 1.5KOHM .25W 1% 1210 T/R | B 9 |
| R701 | A11368-10001 | 100 OHM 1% 0805 RES T/R | B 8* |
| R702 | A11371-4741 | 470KOHM .1W 5% CHIP 0805 | B 8* |
| R703 | A11368-12121 | 12.1KOHM .1W 1% 0805 T/R | B 8 |
| R704 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | B 8* |
| R705 | A11371-2023 | 2K OHM .25W 5% 1210 T/R | B 9 |
| R706 | A11371-2023 | 2K OHM .25W 5% 1210 T/R | B 9 |
| R707 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 8 |
| R708 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 9 |
| R709 | A11368-10R03 | 10 OHM 0.25W 1% 1210 T/R | L 6 |
| R710 | A11368-10R03 | 10 OHM 0.25W 1% 1210 T/R | L 6 |
| R711 | 128184-1 | NTC, 20K #8 PRI SEC ISO | E 13 |
| R712 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | E 12 |
| R713 | 127517-1 | PTC, 20K J 10% | C 13 |
| R714 | A11368-48711 | 4.87K OHM .10W 1% 0805 | C 12 |
| R715 | A11368-22131 | 221 KOHM .1W 1% 0805 T/R | D 3* |
| R716 | A11368-36521 | 36.5K OHM 0.1W 1% 0805 T/R | D 3* |
| R717 | A11368-35712 | 3.57KOHM .125W 1% CHIP RES T/R | B 6 |
| R718 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 12 |
| R719 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 11 |
| R720 | A11371-1104 | RES 11.0 OHM .5W SMT | J 10 |
| R721 | A11371-1104 | RES 11.0 OHM .5W SMT | J 12 |
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SIZE A | DWG NO. 126218-13 | REV A
SCALE NONE | PROJ NO. MD425D0 | SHEET 36 OF 48

PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R722 | A11371-1104 | RES 11.0 OHM .5W SMT | J 9 |
| R723 | A11371-0R01 | 0 OHM 0.1W CHIP 0805 | C 8 |
| R724 | | OPEN | C 8* |
| R730 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 5* |
| R731 | A11368-22111 | 2.21KOHM .1W 1% CHIP 0805 | M 4 |
| R732 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | N 5 |
| R798 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 5* |
| R799 | A11368-26721 | 26.7KOHM .1W 1% 0805 T/R | P 5* |
| R800 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | B 3 |
| R801 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | B 3 |
| R802 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | B 3 |
| R805 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | C 7 |
| R807 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 6 |
| R808 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 5 |
| R809 | A11371-1104 | RES 11.0 OHM .5W SMT | J 4 |
| R810 | A11371-1104 | RES 11.0 OHM .5W SMT | J 6 |
| R811 | A11371-1104 | RES 11.0 OHM .5W SMT | J 1 |
| R812 | A11371-1104 | RES 11.0 OHM .5W SMT | J 3 |
| R813 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 2 |
| R814 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 3 |
| R830 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 3* |
| R831 | A11368-22111 | 2.21KOHM .1W 1% CHIP 0805 | M 2 |
| R832 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | N 4 |
| R889 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 3* |
| R899 | A11368-26721 | 26.7KOHM .1W 1% 0805 T/R | P 3* |
| RT1 | 127518-3 | NTC 20K J 10% #8 RING | K 11 |
| RT2 | 127518-3 | NTC 20K J 10% #8 RING | K 3 |
| T1 | 126012-1 | XFMR, 400V/150V CT | D 11 |
| T2 | 127522-2 | XFMR, 125KHZ 15V GATE DRIVE | E 7 |
| T3 | 127522-2 | XFMR, 125KHZ 15V GATE DRIVE | E 9 |
| T4 | 126072-1 | XFMR, CURRENT SENSE | C 9 |
| T4X | 101128-1 | WIRE, K2 CURRENT SENSE | C 9 |
| T100 | H43628-9 | XFMR D350 100:1 CURRENT SENSE | N 11 |
| T100X | 101128-1 | WIRE, K2 CURRENT SENSE | N 11 |
| T101 | 126863-1 | XFMR, BCA GATE SUPPLY | K 7 |
| T101X | 101128-1 | WIRE, K2 CURRENT SENSE | K 7 |
| T200 | H43628-9 | XFMR D350 100:1 CURRENT SENSE | P 11 |
| T201 | 126863-1 | XFMR, BCA GATE SUPPLY | K 7 |
| TP1 | 127064-1 | TEST POINT, SMT 1206 | N 6 |
| TP2 | 127064-1 | TEST POINT, SMT 1206 | C 4 |
| TP3 | 127064-1 | TEST POINT, SMT 1206 | L 8 |
| TP5 | 127064-1 | TEST POINT, SMT 1206 | E 3 |
| TP6 | 127064-1 | TEST POINT, SMT 1206 | A 4 |
| TP7 | 127064-1 | TEST POINT, SMT 1206 | D 7 |
| TP8 | 127064-1 | TEST POINT, SMT 1206 | E 4 |
| TP9 | 127064-1 | TEST POINT, SMT 1206 | C 8 |
| TP10 | 127064-1 | TEST POINT, SMT 1206 | N 6 |
| TP11 | 127064-1 | TEST POINT, SMT 1206 | C 8 |
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|---|---|---|---|
| A | 126218-13 | | A |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| TP12 | 127064-1 | TEST POINT, SMT 1206 | C 7 |
| TP13 | 127064-1 | TEST POINT, SMT 1206 | D 8 |
| TP14 | 127064-1 | TEST POINT, SMT 1206 | E 8 |
| TP15 | 127064-1 | TEST POINT, SMT 1206 | E 7 |
| TP16 | 127064-1 | TEST POINT, SMT 1206 | D 9 |
| TP17 | 127064-1 | TEST POINT, SMT 1206 | E 8 |
| TP27 | 127064-1 | TEST POINT, SMT 1206 | E 7 |
| TP28 | 127064-1 | TEST POINT, SMT 1206 | E 7 |
| TP29 | 127064-1 | TEST POINT, SMT 1206 | E 7 |
| TP30 | 127064-1 | TEST POINT, SMT 1206 | E 9 |
| TP31 | 127064-1 | TEST POINT, SMT 1206 | E 8 |
| TP32 | 127064-1 | TEST POINT, SMT 1206 | E 8 |
| TP33 | 127064-1 | TEST POINT, SMT 1206 | B 7 |
| TP34 | 127064-1 | TEST POINT, SMT 1206 | C 7 |
| TP35 | 127064-1 | TEST POINT, SMT 1206 | C 7 |
| TP36 | 127064-1 | TEST POINT, SMT 1206 | C 8 |
| TP37 | 127064-1 | TEST POINT, SMT 1206 | J 7 |
| TP38 | 127064-1 | TEST POINT, SMT 1206 | K 11 |
| TP39 | 127064-1 | TEST POINT, SMT 1206 | A 3 |
| TP40 | 127064-1 | TEST POINT, SMT 1206 | B 3 |
| TP41 | 127064-1 | TEST POINT, SMT 1206 | C 3 |
| TP43 | 127064-1 | TEST POINT, SMT 1206 | B 3 |
| TP45 | 127064-1 | TEST POINT, SMT 1206 | B 2 |
| TP46 | 127064-1 | TEST POINT, SMT 1206 | B 3 |
| TP47 | 127064-1 | TEST POINT, SMT 1206 | H 13 |
| TP48 | 127064-1 | TEST POINT, SMT 1206 | B 11 |
| TP49 | 127064-1 | TEST POINT, SMT 1206 | A 8 |
| TP50 | 127064-1 | TEST POINT, SMT 1206 | E 8 |
| TP91 | 127064-1 | TEST POINT, SMT 1206 | B 8 |
| TP100 | 127064-1 | TEST POINT, SMT 1206 | P 6 |
| TP101 | 127064-1 | TEST POINT, SMT 1206 | P 5 |
| TP102 | 127064-1 | TEST POINT, SMT 1206 | N 6 |
| TP103 | 127064-1 | TEST POINT, SMT 1206 | M 10 |
| TP104 | 127064-1 | TEST POINT, SMT 1206 | O 5 |
| TP105 | 127064-1 | TEST POINT, SMT 1206 | P 6 |
| TP143 | 127064-1 | TEST POINT, SMT 1206 | A 8 |
| TP162 | 127064-1 | TEST POINT, SMT 1206 | B 9 |
| TP200 | 127064-1 | TEST POINT, SMT 1206 | P 4 |
| TP201 | 127064-1 | TEST POINT, SMT 1206 | P 3 |
| TP202 | 127064-1 | TEST POINT, SMT 1206 | N 4 |
| TP203 | 127064-1 | TEST POINT, SMT 1206 | P 10 |
| TP204 | 127064-1 | TEST POINT, SMT 1206 | O 3 |
| TP205 | 127064-1 | TEST POINT, SMT 1206 | P 4 |
| TP243 | 127064-1 | TEST POINT, SMT 1206 | K 2 |
| TP244 | 127064-1 | TEST POINT, SMT 1206 | J 7 |
| TP245 | 127064-1 | TEST POINT, SMT 1206 | O 6 |
| TP247 | 127064-1 | TEST POINT, SMT 1206 | M 6 |
| TP248 | 127064-1 | TEST POINT, SMT 1206 | M 3 |
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| A | 126218-13 | | A |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| TP249 | 127064-1 | TEST POINT, SMT 1206 | A 2 |
| TP251 | 127064-1 | TEST POINT, SMT 1206 | B 6 |
| TP252 | 127064-1 | TEST POINT, SMT 1206 | A 4 |
| TP253 | 127064-1 | TEST POINT, SMT 1206 | C 8 |
| TP254 | 127064-1 | TEST POINT, SMT 1206 | Q 3 |
| TP255 | 127064-1 | TEST POINT, SMT 1206 | P 2 |
| TP256 | 127064-1 | TEST POINT, SMT 1206 | C 7 |
| TP257 | 127064-1 | TEST POINT, SMT 1206 | N 5 |
| U1 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | N 1 |
| U2 | 128279-1 | IC, SGSL4981B PFC CONTROL | D 3 |
| U3 | C 8262-5 | MC33078D LOW NOISE DUAL OP AMP | O 1 |
| U4 | 126681-1 | IC, PWN CONT PHASE SHIFT | D 8 |
| U5 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | C 8 |
| U6 | 125868-1 | OP AMP TL074CD SMT | O 6 |
| U7 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | B 7 |
| U8 | 126561-1 | REG, +5V LOW POWER SO-8 | N 3 |
| U9 | 127145-1 | DVR, 1.5A DUAL SO-8 MOSFET | E 3 |
| U10 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | A 3 |
| U11 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | A 3 |
| U12 | 126633-1 | REGULATOR, 15V SO-8 | A 4 |
| U13 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | C 3 |
| U14 | 126561-1 | REG, +5V LOW POWER SO-8 | G 14 |
| U15 | 126653-1 | SGL 2 INPUT NOR GATE SOT-23-5 | H 14 |
| U16 | 125867-1 | MC74HC4024D 7 STAGE COUNTER SM | H 13 |
| U17 | 127145-1 | DVR, 1.5A DUAL SO-8 MOSFET | E 7 |
| U18 | 128383-1 | OPTO HCNW2211 IEC65 COMPLIANT | B 10 |
| U19 | 126561-1 | REG, +5V LOW POWER SO-8 | C 7 |
| U20 | 128382-1 | OPTO SFH615A-2 IEC65 COMPLIANT | A 10 |
| U21 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | A 9 |
| U22 | 125541-1 | DRVR, 600V IR2104 HALF BRIDGE | L 6 |
| U23 | 126553-1 | IC, 20V 0.135OHM SO8 DUAL NMOS | L 6 |
| U24 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | A 4 |
| U25 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | C 3 |
| U26 | 127145-1 | DVR, 1.5A DUAL SO-8 MOSFET | E 3 |
| U27 | 126633-1 | REGULATOR, 15V SO-8 | E 4 |
| U28 | C 5095-2 | MC7815CT +15V. REG | D 7 |
| U29 | 127145-1 | DVR, 1.5A DUAL SO-8 MOSFET | E 9 |
| U30 | 128382-1 | OPTO SFH615A-2 IEC65 COMPLIANT | A 9 |
| U31 | 127145-1 | DVR, 1.5A DUAL SO-8 MOSFET | E 7 |
| U32 | 127145-1 | DVR, 1.5A DUAL SO-8 MOSFET | E 8 |
| U33 | | OPEN | A 10 |
| U34 | | OPEN | B 10 |
| U35 | C10344-7 | 74HC74AD DUAL D FLIP FLOP SOIC | C 7 |
| U36 | 128382-1 | OPTO SFH615A-2 IEC65 COMPLIANT | A 10 |
| U37 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | D 8 |
| U99 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | B 8 |
| U100 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | P 5 |
| U101 | 126548-1 | COMPARATOR, LM361 HI SPD SO-14 | N 5 |
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| A | 126218-13 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 39 OF 48 | |

PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| U102 | 126561-1 | REG, +5V LOW POWER SO-8 | N 5 |
| U103 | 126548-1 | COMPARATOR, LM361 HI SPD SO-14 | N 6 |
| U104 | 126561-1 | REG, +5V LOW POWER SO-8 | N 6 |
| U105 | 125869-1 | OP AMP LM318M SMT | N 6 |
| U106 | 126540-1 | IC,QUAD 2 INPUT NOR GATE SO-14 | M 6 |
| U107 | 125545-1 | HCPL0601 HI SPEED OPTO | M 7 |
| U108 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | N 7 |
| U110 | C 8262-5 | MC33078D LOW NOISE DUAL OP AMP | P 5 |
| U111 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | O 5 |
| U112 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | O 2 |
| U113 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | M 5 |
| U114 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | M 4 |
| U115 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | L 8 |
| U116 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | M 4 |
| U117 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | O 2 |
| U118 | 126561-1 | REG, +5V LOW POWER SO-8 | K 8 |
| U119 | 125546-1 | HCPL0611 HI SPEED OPTO | K 9 |
| U120 | 125544-1 | MC34151D HISPD DUAL MOSFET DVR | J 9 |
| U121 | 125544-1 | MC34151D HISPD DUAL MOSFET DVR | J 11 |
| U122 | 126561-1 | REG, +5V LOW POWER SO-8 | K 11 |
| U123 | 125545-1 | HCPL0601 HI SPEED OPTO | K 11 |
| U124 | C10344-7 | 74HC74AD DUAL D FLIP FLOP SOIC | L 6 |
| U125 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | N 2 |
| U200 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | P 4 |
| U201 | 126548-1 | COMPARATOR, LM361 HI SPD SO-14 | N 4 |
| U202 | 126561-1 | REG, +5V LOW POWER SO-8 | N 4 |
| U203 | 126548-1 | COMPARATOR, LM361 HI SPD SO-14 | N 3 |
| U204 | 126561-1 | REG, +5V LOW POWER SO-8 | N 3 |
| U205 | 125869-1 | OP AMP LM318M SMT | N 4 |
| U207 | 125545-1 | HCPL0601 HI SPEED OPTO | P 7 |
| U208 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | P 7 |
| U210 | C 8262-5 | MC33078D LOW NOISE DUAL OP AMP | P 3 |
| U211 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | O 3 |
| U213 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | M 4 |
| U214 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | M 3 |
| U218 | 126561-1 | REG, +5V LOW POWER SO-8 | K 4 |
| U219 | 125546-1 | HCPL0611 HI SPEED OPTO | K 5 |
| U220 | 125544-1 | MC34151D HISPD DUAL MOSFET DVR | J 5 |
| U221 | 125544-1 | MC34151D HISPD DUAL MOSFET DVR | J 3 |
| U222 | 126561-1 | REG, +5V LOW POWER SO-8 | K 2 |
| U223 | 125545-1 | HCPL0601 HI SPEED OPTO | K 3 |
| U224 | C10344-7 | 74HC74AD DUAL D FLIP FLOP SOIC | N 5 |
| Y1 | C10476-7 | CRYSTAL, 4 MHZ HC49U SERIES | G 13 |
| 1 | 126583-8 | PWB, CE4000 MAIN | |
| | | | |
| 3 | 103415-10805 | SCREW, 8-32X.312 TORX PNHD SEM | |
| 4 | 126923-4 | INSULATOR, CE4K HEATSINK NOMEX | |
| 5 | 128130-1 | RIVET, CE4000 INS RET PLASTIC | |
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|---|---|---|---|
| A | 126218-13 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 40 OF 48 | |

***CE4000 MAIN*** PWA NUMBER: 126218-13

DRAWING SHEET: 41

***CE4000 MAIN*** PWA NUMBER: 126218-13
DRAWING SHEET: 41

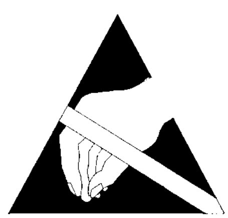
REVISION HISTORY

| E.C.N. | REV | DESCRIPTION | DATE | APPROVED DWN | CHK | CM | PE |
|---|---|---|---|---|---|---|---|
| 00N0838 | A | RELEASE FOR PRODUCTION | 10-02-00 | KBZ | JCM | mmg | M |

UNLESS OTHERWISE SPECIFIED, THIS PRINTED WIRING ASSEMBLY SHALL MEET THE SPECIFICATION DESCRIBED IN IPC-A-610_ CLASS 2 STANDARDS.

NOTES:

1. PRINTED WIRING BOARD PART NUMBER 126583-8.
2. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
3. POSITION COMPONENTS AS SHOWN ON COMPONENT MAPS.
4. THE PRINTED WIRING ASSEMBLY PART NUMBER FOR THIS ASSEMBLY SHALL BE MARKED ON THE PRINTED WIRING BOARD AND SHALL BE PERMANENT.
5. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES INDICATED ON COMPONENT MAP.
6. MAP LOCATIONS DENOTED BY AN ASTERISK (*), INDICATE COMPONENTS MOUNTED ON THE BOTTOM SIDE OF THE PRINTED WIRING BOARD.
7. THE VENT HOLE ON TOP OF THE RELAY K1 MUST BE OPENED AFTER THE CLEANING PROCESS, BY EITHER REMOVING THE SEALING TAPE OR CUTTING OFF THE CIRCULAR TAB WITH AN "EXACTO" KNIFE OR SIMILAR CUTTING TOOL. WARNING, THIS STEP MUST BE DONE AFTER THE CLEANING PROCESS NOT BEFORE!! WATER OR CLEANING SOLVENTS ENTERING THE RELAY VENT HOLE WILL DAMAGE THE RELAY.
8. APPLY HOT MELT ADHESIVE(125647-1) FOR SUPPORT TO THE FOLLOWING COMPONENTS: C2,C700,R42,R142,R143,R149,R150,R242,R243,R249,R250, R325,R363,R364,R463, AND R464. ADHESIVE MUST HAVE A MINIMUM CONTACT AREA OF 1/4" X 1/2" ON BOTH THE DESIGNATED PART AND EITHER THE PWB OR ANY ADJACENT SOLID COMPONENT.
9. ATTACH R713 TO THE SIDE OF T1 WITH LOCTITE ADHESIVE(125482-1) AND ACTIVATOR(125483-1). NO MORE THAN 0.1" GAP ALLOWED BETWEEN BODY OF R713 AND SIDE OF T1. ANY GAP MUST BE FILLED WITH ADHESIVE (NO AIR BETWEEN R713 & T1).
10. THIS PWA MUST MEET ALL SPECIFICATIONS AS LISTED IN 128315 SPECS, CE4000 MAIN PWA.
11. ADD 1/4" SQ. PIECE OF KAPTON TAPE(S 6285-1) UNDER R260 AS SHOWN.



CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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TITLE: PWA, CE4000 MAIN

| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126218-14 | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET SHEET 1 OF 48 |

| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| C1 | 127046-1 | CAP, 940UF 450V HIGH RIPPLE | D 6 |
| C2 | C10094-8 | 1.5UF 630V 5% RADIAL POLY CAP | E 5 |
| C3 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | D 8 |
| C4 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | E 4 |
| C5 | | OPEN | B 10 |
| C6 | 127046-1 | CAP, 940UF 450V HIGH RIPPLE | B 4 |
| C7 | 127047-1 | CAP, 820UF 150V HIGH RIPPLE | D 13 |
| C8 | 127047-1 | CAP, 820UF 150V HIGH RIPPLE | C 13 |
| C9 | A11427-334J6 | .33UF 50V 5% CHIP X7R 1210 | E 3 |
| C10 | A11427-334J6 | .33UF 50V 5% CHIP X7R 1210 | D 4 |
| C11 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 4* |
| C12 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 3* |
| C13 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | D 3 |
| C14 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | D 3 |
| C15 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | M 6* |
| C16 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | C 3 |
| C17 | C10090-6 | 4.7UF 400V 10% AXIAL FILM | D 9 |
| C18 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | D 7 |
| C19 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 3 |
| C20 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 3* |
| C21 | A11369-561F2 | 560PF 50V 1% NPO MLC 0805 | D 4 |
| C22 | A11369-152J2 | 1500PF 50V 5% NPO MLC 0805 T/R | D 3 |
| C23 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | D 3 |
| C24 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | C 4 |
| C25 | C 7091-9 | .33 UF 50V Z5U CHIP CAP | D 4* |
| C26 | A11427-102K2 | .001UF 50V 10% X7R CER CHIP | C 8 |
| C27 | C 4253-8 | 4.7UF 63V 20% VERT ELECT T/R | E 4 |
| C28 | C 8268-2 | 220UF 35V 20% VERT | B 8 |
| C29 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 8* |
| C30 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | M 7 |
| C31 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | N 7 |
| C32 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | O 7 |
| C33 | A11369-222K5 | 2200PF 50V 10% CHIP NPO 1206 | C 8* |
| C34 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | B 3 |
| C35 | A11369-471K2 | 470PF 50V 10% NPO 0805 T/R | C 8 |
| C36 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 8 |
| C37 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | D 8 |
| C38 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 8 |
| C39 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | D 8 |
| C40 | | OPEN | A 7 |
| C41 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | P 7 |
| C42 | A11369-101J2 | 100 PF 50V 5% NPO MLC 0805 T/R | M 6* |
| C43 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | C 9* |
| C44 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | A 8 |
| C45 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | E 4 |
| C46 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 9* |
| C47 | C 9465-3 | 10UF 50V 20% VERT ELECT T/A | B 4 |
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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 126218-14 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 11 OF 48 | |

PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| C48 | C 7091-9 | .33 UF 50V Z5U CHIP CAP | A 3 |
| C49 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | B 3 |
| C50 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | A 4 |
| C51 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 8* |
| C52 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 8* |
| C53 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | M 8 |
| C54 | 126630-1 | CAP, 470UF 25V RAD ELECT | I 13 |
| C56 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 1* |
| C57 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 1* |
| C58 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 1* |
| C59 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 1* |
| C60 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 1 |
| C61 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 1 |
| C62 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | C 8* |
| C63 | A11427-334J6 | .33UF 50V 5% CHIP X7R 1210 | H 14 |
| C64 | 125508-1 | 10UF 50V 20% SMT AL ELECT T/R | G 14 |
| C65 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | G 14 |
| C66 | 102438-560K2 | 56PF 200V 10% NPO 0805 T/R | H 14 |
| C67 | 102438-560K2 | 56PF 200V 10% NPO 0805 T/R | H 13 |
| C68 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | H 14 |
| C69 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 5 |
| C70 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | C 7 |
| C71 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 9* |
| C72 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | B 3 |
| C73 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | A 4 |
| C74 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 7* |
| C75 | A11427-473K5 | .047UF 50V CHIP CAPACITOR X7R | B 3 |
| C76 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | C 3 |
| C78 | A11427-102K2 | .001UF 50V 10% X7R CER CHIP | B 3 |
| C79 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | E 7 |
| C80 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | E 8 |
| C81 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | O 1 |
| C82 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | M 5 |
| C83 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 6* |
| C84 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 6* |
| C85 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | L 5 |
| C86 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | L 6 |
| C87 | C10516-0 | 470.UF 10V 20% LOW ESR RDL T/R | L 6 |
| C88 | C10516-0 | 470.UF 10V 20% LOW ESR RDL T/R | L 7 |
| C89 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | B 7 |
| C90 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | N 3* |
| C91 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 5 |
| C92 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 3* |
| C93 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | C 3* |
| C94 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 3* |
| C95 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 3* |
| C96 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 3* |
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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 126218-14 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 12 OF 48 | |

| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| C97 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 12 |
| C98 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | D 12 |
| C99 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | C 7* |
| C100 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | N 13 |
| C101 | | OPEN | P 5* |
| C102 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | P 5 |
| C103 | 102438-101K2 | 100PF 200V NPO 0805 T/R | O 6 |
| C104 | 102438-221F2 | 220PF 200V 1% NPO 0805 | O 6 |
| C105 | 102438-102J6 | 1000PF 200V 5% 1210 NPO | O 6* |
| C106 | 103430-331K2 | 330PF 250V 10% NPO 0805 T/R | O 6* |
| C107 | 102438-221F2 | 220PF 200V 1% NPO 0805 | P 6 |
| C108 | A11427-473K5 | .047UF 50V CHIP CAPACITOR X7R | O 6 |
| C109 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | O 6 |
| C110 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | P 5* |
| C111 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | O 5* |
| C112 | A11369-471F2 | 470.PF 50V 1% NPO MLC 0805 | O 5* |
| C113 | A11369-101J2 | 100 PF 50V 5% NPO MLC 0805 T/R | O 5* |
| C114 | A11369-332F5 | 3300.PF 50V 1% NPO MLC 1206 | O 5 |
| C115 | A11369-332F5 | 3300.PF 50V 1% NPO MLC 1206 | P 6* |
| C116 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | P 6* |
| C117 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | P 6* |
| C118 | A11369-470K2 | 47PF 50V 10% NPO 0805 T/R | N 5* |
| C119 | A11369-470K2 | 47PF 50V 10% NPO 0805 T/R | N 6* |
| C120 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 5 |
| C121 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 5 |
| C122 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 5* |
| C123 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | O 5 |
| C124 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 6 |
| C125 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 6 |
| C126 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 6* |
| C127 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | O 6 |
| C128 | C10466-8 | .22UF 50V 5% MTL FILM RDL T/A | M 9 |
| C129 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | M 10 |
| C130 | A11427-103K5 | 0.01UF 50V 10% X7R SMD 1206 | N 7 |
| C131 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | M 10 |
| C132 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | N 12 |
| C133 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | N 12 |
| C134 | A11427-224J5 | 0.22UF 50V 5% X7R 1206 T/R | M 12 |
| C135 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | M 12 |
| C136 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | N 13 |
| C137 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | N 13 |
| C138 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | N 13 |
| C139 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | N 13 |
| C140 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | O 13 |
| C141 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | E 4 |
| C142 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | A 9 |
| C143 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | B 9 |
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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 126218-14 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 13 OF 48 | |

PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| C144 | A11427-473K5 | .047UF 50V CHIP CAPACITOR X7R | A 4* |
| C145 | A11427-334J6 | .33UF 50V 5% CHIP X7R 1210 | N 6 |
| C146 | A11427-103K5 | 0.01UF 50V 10% X7R SMD 1206 | N 6 |
| C147 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 6 |
| C148 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 7* |
| C149 | 130561-1 | 10UF 25V 20% ALUM ELEC SMT T/R | M 7 |
| C150 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 7* |
| C151 | A11369-102K5 | 1000PF 50V 10% NPO 1206 SMD | M 7* |
| C152 | A11369-102K5 | 1000PF 50V 10% NPO 1206 SMD | N 7* |
| C153 | C 6995-2 | 022UF 100V CHIP CAPACITOR X7R | N 6* |
| C154 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | N 6* |
| C155 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 6* |
| C156 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 6* |
| C157 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | N 6 |
| C158 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | N 6 |
| C159 | A11369-221K2 | 220.PF 50V 10% NPO MLC 0805 | N 6 |
| C160 | 127684-1 | .0047UF 5% 16V 0805 FILM SMT | O 4* |
| C161 | 127684-1 | .0047UF 5% 16V 0805 FILM SMT | O 4* |
| C162 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | O 5* |
| C163 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | O 5* |
| C164 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | O 5* |
| C165 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | O 5* |
| C166 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | O 5* |
| C167 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | N 5* |
| C168 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | O 5* |
| C169 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | N 5* |
| C170 | 126623-1 | 47UF 16V 6.3X5.5MM 20% SMT | O 5 |
| C171 | A11369-102K5 | 1000PF 50V 10% NPO 1206 SMD | L 3* |
| C172 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | M 6 |
| C173 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | P 5 |
| C174 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | O 5 |
| C175 | 126543-1 | 2.2UF 50V 5.5MM HIGH NP SMD | N 5 |
| C176 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | M 4* |
| C177 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 3* |
| C178 | | OPEN | L 8 |
| C179 | A11427-184J5 | 0.18UF 50V 5% X7R 1206 T/R | N 2* |
| C180 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | N 3 |
| C181 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | M 5 |
| C182 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 8 |
| C183 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 8 |
| C184 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 11* |
| C185 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 8 |
| C186 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 8 |
| C187 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 8 |
| C188 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 8* |
| C189 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 8* |
| C190 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | N 9 |
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| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126218-14 | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 14 OF 48 |

| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| C191 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | N 9 |
| C192 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | N 9 |
| C193 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 11* |
| C194 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 11* |
| C195 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 12 |
| C196 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 11 |
| C197 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 12 |
| C198 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 6* |
| C199 | A11369-471K5 | 470PF 50V 10% CHIP NPO 1206 | P 6* |
| C200 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | O 13 |
| C201 | | OPEN | P 3* |
| C202 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | P 3 |
| C203 | 102438-101K2 | 100PF 200V NPO 0805 T/R | O 4 |
| C204 | 102438-221F2 | 220PF 200V 1% NPO 0805 | O 4 |
| C205 | 102438-102J6 | 1000PF 200V 5% 1210 NPO | O 4* |
| C206 | 103430-331K2 | 330PF 250V 10% NPO 0805 T/R | O 4* |
| C207 | 102438-221F2 | 220PF 200V 1% NPO 0805 | P 4 |
| C208 | A11427-473K5 | .047UF 50V CHIP CAPACITOR X7R | O 4 |
| C209 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | O 4 |
| C210 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | P 3* |
| C211 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | O 4* |
| C212 | A11369-471F2 | 470.PF 50V 1% NPO MLC 0805 | O 4* |
| C213 | A11369-101J2 | 100 PF 50V 5% NPO MLC 0805 T/R | O 4* |
| C214 | A11369-332F5 | 3300.PF 50V 1% NPO MLC 1206 | O 4 |
| C215 | A11369-332F5 | 3300.PF 50V 1% NPO MLC 1206 | P 4* |
| C216 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | P 4* |
| C217 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | P 4* |
| C218 | A11369-470K2 | 47PF 50V 10% NPO 0805 T/R | N 4* |
| C219 | A11369-470K2 | 47PF 50V 10% NPO 0805 T/R | N 3* |
| C220 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 4 |
| C221 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 4 |
| C222 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 4* |
| C223 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | O 4 |
| C224 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 3 |
| C225 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 4 |
| C226 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 3* |
| C227 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | O 3 |
| C228 | C10466-8 | .22UF 50V 5% MTL FILM RDL T/A | P 9 |
| C229 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | P 10 |
| C230 | A11427-103K5 | 0.01UF 50V 10% X7R SMD 1206 | O 7 |
| C231 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | P 10 |
| C232 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | P 12 |
| C233 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | P 12 |
| C234 | A11427-224J5 | 0.22UF 50V 5% X7R 1206 T/R | O 12 |
| C235 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | O 12 |
| C236 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | O 13 |
| C237 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | O 13 |
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| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| C238 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | P 13 |
| C239 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | P 13 |
| C240 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | O 13 |
| C241 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | C 8 |
| C242 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | D 8 |
| C245 | A11427-334J6 | .33UF 50V 5% CHIP X7R 1210 | O 6 |
| C246 | A11427-103K5 | 0.01UF 50V 10% X7R SMD 1206 | O 6 |
| C247 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5 |
| C248 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 7* |
| C249 | 130561-1 | 10UF 25V 20% ALUM ELEC SMT T/R | O 7 |
| C250 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 7* |
| C251 | A11369-102K5 | 1000PF 50V 10% NPO 1206 SMD | O 7* |
| C252 | A11369-102K5 | 1000PF 50V 10% NPO 1206 SMD | P 7* |
| C253 | C 6995-2 | 022UF 100V CHIP CAPACITOR X7R | N 4* |
| C254 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | N 4* |
| C255 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 4* |
| C256 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 4* |
| C257 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | N 4 |
| C258 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | N 4 |
| C259 | A11369-221K2 | 220.PF 50V 10% NPO MLC 0805 | N 4 |
| C260 | 127684-1 | .0047UF 5% 16V 0805 FILM SMT | O 3* |
| C261 | 127684-1 | .0047UF 5% 16V 0805 FILM SMT | O 3* |
| C262 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | O 3* |
| C263 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | O 3* |
| C264 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | O 3* |
| C265 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | O 3* |
| C266 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | O 3* |
| C267 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | N 3* |
| C268 | A11369-221J5 | 220PF 50V 5% NPO 1206 SMD | O 3* |
| C269 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | N 3* |
| C270 | 126623-1 | 47UF 16V 6.3X5.5MM 20% SMT | O 3 |
| C271 | A11369-471K5 | 470PF 50V 10% CHIP NPO 1206 | P 4* |
| C272 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | N 5 |
| C273 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | P 4 |
| C274 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | O 4 |
| C275 | 126543-1 | 2.2UF 50V 5.5MM HIGH NP SMD | N 4 |
| C276 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | M 2* |
| C277 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 3* |
| C278 | | OPEN | N 3* |
| C279 | A11427-184J5 | 0.18UF 50V 5% X7R 1206 T/R | N 2* |
| C281 | 126623-1 | 47UF 16V 6.3X5.5MM 20% SMT | B 7 |
| C282 | A11369-471K5 | 470PF 50V 10% CHIP NPO 1206 | O 4 |
| C283 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 8* |
| C284 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 7* |
| C285 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | N 3 |
| C286 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 4 |
| C287 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 5 |
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| A | 126218-14 | | A |
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| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| C288 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 5* |
| C289 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 5* |
| C290 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | O 9 |
| C291 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | O 9 |
| C292 | A10434-473JD | .047UF 250VDC 5% MET POLY T/A | O 9 |
| C293 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 2* |
| C294 | 103430-151K2 | 150PF 250V 10% NPO 0805 T/R | K 2* |
| C295 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 2 |
| C296 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 2 |
| C297 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 2 |
| C298 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 7 |
| C299 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 4* |
| C300 | A11369-102K5 | 1000PF 50V 10% NPO 1206 SMD | L 3* |
| C301 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | E 7* |
| C302 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 4* |
| C303 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 4* |
| C304 | | OPEN | A 10 |
| C305 | | OPEN | B 10 |
| C306 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 7 |
| C307 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | H 14 |
| C308 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 8 |
| C309 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 8 |
| C310 | 125508-1 | 10UF 50V 20% SMT AL ELECT T/R | M 3 |
| C313 | 126542-1 | 2.2UF 50V 5.5MM HIGH SMD | M 9 |
| C314 | A11427-103K5 | 0.01UF 50V 10% X7R SMD 1206 | D 3* |
| C315 | A11369-471K5 | 470PF 50V 10% CHIP NPO 1206 | O 5 |
| C316 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 8 |
| C317 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 8 |
| C318 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 8 |
| C319 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 8 |
| C320 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | D 3 |
| C321 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 7 |
| C322 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 8 |
| C323 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 5* |
| C324 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 5 |
| C325 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 5* |
| C326 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 5* |
| C327 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 5* |
| C328 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 5* |
| C329 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 2* |
| C330 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 2* |
| C332 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | D 8 |
| C333 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | C 3* |
| C334 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | C 7* |
| C335 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | C 3* |
| C336 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | M 5 |
| C337 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | A 10 |
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| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| C338 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 9 |
| C339 | A11427-224J5 | 0.22UF 50V 5% X7R 1206 T/R | N 2* |
| C340 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 4* |
| C341 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 4* |
| C342 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5* |
| C343 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5* |
| C344 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 2* |
| C345 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 2* |
| C346 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 8 |
| C347 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 8 |
| C348 | C10325-6 | 2200.PF 250VAC 20% FILM Y2 | C 11 |
| C349 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | M 4 |
| C350 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 6* |
| C351 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 6* |
| C352 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 6* |
| C353 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 2* |
| C354 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | N 4 |
| C355 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 2* |
| C356 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5 |
| C357 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5 |
| C358 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 9* |
| C360 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 9* |
| C361 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 9* |
| C363 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | H 7* |
| C365 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 7* |
| C366 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 12* |
| C367 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 12* |
| C369 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 10* |
| C371 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 10* |
| C372 | 127483-1 | 6300UF 125V 9A LOW ESL 5 PIN | L 10 |
| C373 | 127483-1 | 6300UF 125V 9A LOW ESL 5 PIN | L 12 |
| C374 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 9* |
| C375 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 7* |
| C377 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | H 12* |
| C378 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 10* |
| C380 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 8* |
| C382 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 9* |
| C384 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 11* |
| C386 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 12* |
| C387 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 9 |
| C388 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 9 |
| C390 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 11 |
| C391 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 11 |
| C397 | A10434-103JD | .01UF 250V 5%MTL POLY FILM T/A | N 10 |
| C398 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | O 5* |
| C400 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 5* |
| C401 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 4* |
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|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| C338 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 9 |
| C339 | A11427-224J5 | 0.22UF 50V 5% X7R 1206 T/R | N 2* |
| C340 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 4* |
| C341 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 4* |
| C342 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5* |
| C343 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5* |
| C344 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 2* |
| C345 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 2* |
| C346 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 8 |
| C347 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | L 8 |
| C348 | C10325-6 | 2200.PF 250VAC 20% FILM Y2 | C 11 |
| C349 | 126539-1 | 10UF 16V 5.5MM HIGH SMD | M 4 |
| C350 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 6* |
| C351 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 6* |
| C352 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 6* |
| C353 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 2* |
| C354 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | N 4 |
| C355 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | N 2* |
| C356 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5 |
| C357 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 5 |
| C358 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 9* |
| C360 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 9* |
| C361 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 9* |
| C363 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | H 7* |
| C365 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 7* |
| C366 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 12* |
| C367 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 12* |
| C369 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 10* |
| C371 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 10* |
| C372 | 127483-1 | 6300UF 125V 9A LOW ESL 5 PIN | L 10 |
| C373 | 127483-1 | 6300UF 125V 9A LOW ESL 5 PIN | L 12 |
| C374 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 9* |
| C375 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 7* |
| C377 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | H 12* |
| C378 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 10* |
| C380 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 8* |
| C382 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 9* |
| C384 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 11* |
| C386 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 12* |
| C387 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 9 |
| C388 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 9 |
| C390 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 11 |
| C391 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 11 |
| C397 | A10434-103JD | .01UF 250V 5%MTL POLY FILM T/A | N 10 |
| C398 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | O 5* |
| C400 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 5* |
| C401 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 4* |
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|---|---|---|---|
| C403 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 6* |
| C404 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | H 6* |
| C407 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 2* |
| C408 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 1* |
| C409 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 3* |
| C410 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 3* |
| C413 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 4* |
| C414 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 6* |
| C416 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 6 |
| C417 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 6 |
| C418 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 6 |
| C419 | 126551-1 | 100UF 25V 5.5MM HIGH SMD | K 6 |
| C421 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 6 |
| C422 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | K 4 |
| C423 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 4* |
| C424 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 4* |
| C425 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 3* |
| C426 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | O 3 |
| C427 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 3* |
| C428 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | P 3* |
| C429 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 3* |
| C430 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 3* |
| C431 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 4* |
| C432 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | M 4* |
| C435 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | H 2* |
| C436 | 130636-103J5 | 0.01UF 500V 5% X7R 1206 T/R | I 3* |
| C437 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 4* |
| C438 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 5* |
| C440 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 1* |
| C441 | 130636-104K6 | 0.1UF 500V 10% X7R 1210 T/R | I 3* |
| C446 | 127483-1 | 6300UF 125V 9A LOW ESL 5 PIN | L 4 |
| C447 | 127483-1 | 6300UF 125V 9A LOW ESL 5 PIN | L 2 |
| C449 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 5 |
| C453 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 5 |
| C454 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 3 |
| C455 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | J 3 |
| C497 | A10434-103JD | .01UF 250V 5%MTL POLY FILM T/A | O 10 |
| C498 | A11427-104J2 | .1UF 50V 5% X7R 0805 T/R | O 3* |
| C500 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | N 1 |
| C501 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | O 1 |
| C502 | A11369-221K2 | 220.PF 50V 10% NPO MLC 0805 | N 1 |
| C600 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | N 1 |
| C601 | 103191-1 | 0.47UF 50V Z5U 1210 T/R | O 1 |
| C602 | A11369-221K2 | 220.PF 50V 10% NPO MLC 0805 | N 1 |
| C700 | C 7099-2 | 0.47UF 250VAC 50-400HZ RFI CAP | E 1 |
| C701 | A11427-102K2 | .001UF 50V 10% X7R CER CHIP | B 8* |
| C702 | | OPEN | C 8* |
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| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126218-14 | A |

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| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| D1 | | INSTALLED ON PREVIOUS ASSEMBLY | F 1 |
| D2 | | INSTALLED ON PREVIOUS ASSEMBLY | F 5 |
| D3 | | INSTALLED ON PREVIOUS ASSEMBLY | F 11 |
| D4 | | INSTALLED ON PREVIOUS ASSEMBLY | F 10 |
| D5 | | INSTALLED ON PREVIOUS ASSEMBLY | F 12 |
| D6 | | INSTALLED ON PREVIOUS ASSEMBLY | F 12 |
| D7 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | D 4 |
| D8 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | D 3 |
| D9 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 9 |
| D10 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 9 |
| D11 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | E 4 |
| D12 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 9 |
| D13 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 9 |
| D14 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 3* |
| D15 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 8 |
| D16 | | OPEN | B 11 |
| D17 | | OPEN | A 8 |
| D18 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | A 4 |
| D19 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | A 3 |
| D22 | 125255-1 | DIODE, ULTRAFAST 200V 1A SMA | H 14 |
| D24 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | O 1 |
| D25 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | O 1 |
| D26 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 9 |
| D27 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | B 9 |
| D33 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | C 2 |
| D34 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | L 6 |
| D35 | 125593-1 | DIODE, SCHOTTKY 40V 1A SMA | L 6 |
| D36 | 125593-1 | DIODE, SCHOTTKY 40V 1A SMA | L 7 |
| D37 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | M 3 |
| D38 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | M 3 |
| D43 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 10 |
| D44 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 7 |
| D45 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | A 4 |
| D100 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | N 13 |
| D101 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | N 13 |
| D102 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | N 12 |
| D103 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | N 12 |
| D104 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | P 5 |
| D105 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | P 6 |
| D106 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | P 6 |
| D107 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | N 5* |
| D109 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | N 7 |
| D110 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | P 5 |
| D120 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 5 |
| D121 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 5 |
| D122 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | N 2 |
| D123 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 7 |
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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 126218-14 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 20 OF 48 | |

| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| D124 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 8 |
| D125 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 8 |
| D126 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 8 |
| D127 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 8 |
| D128 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 5 |
| D129 | 125620-1 | DIODE, FAST RECOVERY 400V 1A | N 10 |
| D130 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 8 |
| D131 | 125593-1 | DIODE, SCHOTTKY 40V 1A SMA | K 7 |
| D132 | 125593-1 | DIODE, SCHOTTKY 40V 1A SMA | K 7 |
| D133 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 5 |
| D134 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 11 |
| D138 | | OPEN | J 8 |
| D139 | | OPEN | J 9 |
| D140 | | INSTALLED ON PREVIOUS ASSEMBLY | J 9 |
| D141 | | INSTALLED ON PREVIOUS ASSEMBLY | J 8 |
| D142 | | INSTALLED ON PREVIOUS ASSEMBLY | J 11 |
| D143 | | INSTALLED ON PREVIOUS ASSEMBLY | J 11 |
| D144 | | OPEN | J 11 |
| D145 | | OPEN | J 11 |
| D146 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 4 |
| D200 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | O 13 |
| D201 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | O 13 |
| D202 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | O 12 |
| D203 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | O 12 |
| D204 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | P 3 |
| D205 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | P 4 |
| D206 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | P 4 |
| D207 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | N 4* |
| D209 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | P 7 |
| D210 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | P 3 |
| D222 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | N 2 |
| D223 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | L 7 |
| D229 | 125620-1 | DIODE, FAST RECOVERY 400V 1A | P 10 |
| D231 | 125593-1 | DIODE, SCHOTTKY 40V 1A SMA | K 6 |
| D232 | 125593-1 | DIODE, SCHOTTKY 40V 1A SMA | K 6 |
| D238 | | OPEN | J 6 |
| D239 | | OPEN | J 5 |
| D240 | | INSTALLED ON PREVIOUS ASSEMBLY | J 5 |
| D241 | | INSTALLED ON PREVIOUS ASSEMBLY | J 5 |
| D242 | | INSTALLED ON PREVIOUS ASSEMBLY | J 2 |
| D243 | | INSTALLED ON PREVIOUS ASSEMBLY | J 3 |
| D244 | | OPEN | J 2 |
| D245 | | OPEN | J 3 |
| D246 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | M 3 |
| D500 | | OPEN | N 1 |
| D600 | | OPEN | O 1 |
| D700 | 126549-1 | DIODE,30V 200MA SCHOTTKY SOT23 | B 8 |
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| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126218-14 | A |

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| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| D701 | C 8369-8 | 1N747A 3.6V 5% ZENER .5W T/A | C 9 |
| E1 | 102476-1 | LED, SMT R/A GREEN | L 1 |
| E2 | 102477-1 | LED, SMT R/A RED | L 1 |
| E3 | 102477-1 | LED, SMT R/A RED | M 1 |
| E4 | 102476-1 | LED, SMT R/A GREEN | K 1 |
| E5 | 102476-1 | LED, SMT R/A GREEN | N 1 |
| E6 | 102477-1 | LED, SMT R/A RED | O 1 |
| E7 | 102477-1 | LED, SMT R/A RED | O 1 |
| FB1 | 100868-1 | FERRITE, 70 OHM 25% 1206 SMT | D 7* |
| FB2 | 100868-1 | FERRITE, 70 OHM 25% 1206 SMT | E 4* |
| FB3 | 100868-1 | FERRITE, 70 OHM 25% 1206 SMT | A 4* |
| HS1 | C 9918-1 | TO220 VERT CLIP-ON HEATSINK | D 7 |
| HS2 | 128009-1 | ASM, CE3000 PS PRIMARY HS | F 1 |
| HS3 | 128010-1 | ASM, CE3000 PS DIODE HS | F 10 |
| HS4 | 128011-1 | ASM, CE3000 BCA OUTPUT HS | H 7 |
| HS5 | 128011-1 | ASM, CE3000 BCA OUTPUT HS | H 1 |
| J1 | 101031-1 | .250 FASTON, AUTO INSERTABLE | D 1 |
| J2 | 101031-1 | .250 FASTON, AUTO INSERTABLE | D 1 |
| J3 | 101031-1 | .250 FASTON, AUTO INSERTABLE | K 8 |
| J4 | 101571-1 | HDR, 2 POS .1 CTR MTA SHRD | H 14 |
| J5 | 127563-3 | PWA, CE4000 POT BOARD | O 2 |
| J6 | 130640-1 | HEADER,3M LATCH 26 PIN .1X.1 | Q 2 |
| J7 | | OPEN | Q 6 |
| J8 | | OPEN | K 14 |
| J9 | A10020-34 | 6-32 X .375 PCB CAPTIVE STUD | K 14 |
| J11 | 101031-1 | .250 FASTON, AUTO INSERTABLE | M 8 |
| J12 | 101031-1 | .250 FASTON, AUTO INSERTABLE | N 8 |
| J13 | 101031-1 | .250 FASTON, AUTO INSERTABLE | K 11 |
| J14 | 101031-1 | .250 FASTON, AUTO INSERTABLE | K 5 |
| J15 | 101031-1 | .250 FASTON, AUTO INSERTABLE | O 8 |
| J16 | 101031-1 | .250 FASTON, AUTO INSERTABLE | P 8 |
| J17 | 101031-1 | .250 FASTON, AUTO INSERTABLE | K 2 |
| J18 | | OPEN | M 14 |
| J19 | A10020-34 | 6-32 X .375 PCB CAPTIVE STUD | L 14 |
| J20 | | OPEN | M 1 |
| J21 | | OPEN | O 1 |
| J22 | 101031-1 | .250 FASTON, AUTO INSERTABLE | E 4 |
| J23 | 101031-1 | .250 FASTON, AUTO INSERTABLE | D 2 |
| J24 | 127030-1 | CONN, 7 PIN RECEPTACLE | A 7 |
| J25 | 127031-1 | CONN, 15 PIN RECEPTACLE | A 10 |
| J26 | 101031-1 | .250 FASTON, AUTO INSERTABLE | C 2 |
| J27 | 101031-1 | .250 FASTON, AUTO INSERTABLE | B 2 |
| J28 | 101031-1 | .250 FASTON, AUTO INSERTABLE | B 2 |
| J29 | 101031-1 | .250 FASTON, AUTO INSERTABLE | B 2 |
| J30 | | OPEN | Q 5 |
| K1 | 128135-1 | RELAY, 30A 250V 12VCOIL PCB MT | C 2 |
| L1 | 127988-1 | CHOKE,10UH <0.1OHM SMT .3" DIA | I 13 |
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| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126218-14 | A |

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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| L2 | 128179-1 | WIRE, 12AWG JUMPER 0.8" | E 13 |
| L3 | 127988-1 | CHOKE,10UH <0.1OHM SMT .3" DIA | M 2 |
| L4 | 127988-1 | CHOKE,10UH <0.1OHM SMT .3" DIA | L 5 |
| L5 | 128179-1 | WIRE, 12AWG JUMPER 0.8" | F 13 |
| L6 | 128179-1 | WIRE, 12AWG JUMPER 0.8" | F 13 |
| L7 | 127988-1 | CHOKE,10UH <0.1OHM SMT .3" DIA | M 2 |
| L8 | 127988-1 | CHOKE,10UH <0.1OHM SMT .3" DIA | L 5 |
| L9 | 128179-1 | WIRE, 12AWG JUMPER 0.8" | E 13 |
| L10 | 128179-1 | WIRE, 12AWG JUMPER 0.8" | E 13 |
| L11 | 128179-1 | WIRE, 12AWG JUMPER 0.8" | E 13 |
| L100 | C 5644-7 | CHOKE, 33 UH 10% T/R | O 6 |
| L101 | 131286-1 | COIL, 2UH ADJUSTABLE | M 9 |
| L102 | 131285-1 | COIL, 1UH ADJUSTABLE | N 10 |
| L103 | 125600-1 | INDUCTOR, 1.01UH 30A AIRCORE | L 13 |
| L104 | 125600-1 | INDUCTOR, 1.01UH 30A AIRCORE | N 13 |
| L105 | 127988-1 | CHOKE,10UH <0.1OHM SMT .3" DIA | K 12 |
| L200 | C 5644-7 | CHOKE, 33 UH 10% T/R | O 4 |
| L201 | 131286-1 | COIL, 2UH ADJUSTABLE | P 9 |
| L202 | 131285-1 | COIL, 1UH ADJUSTABLE | P 10 |
| L203 | 125600-1 | INDUCTOR, 1.01UH 30A AIRCORE | O 14 |
| L204 | 125600-1 | INDUCTOR, 1.01UH 30A AIRCORE | P 13 |
| L205 | 127988-1 | CHOKE,10UH <0.1OHM SMT .3" DIA | K 1 |
| Q1 | | INSTALLED ON PREVIOUS ASSEMBLY | F 3 |
| Q2 | | INSTALLED ON PREVIOUS ASSEMBLY | F 4 |
| Q3 | 127169-1 | MOSFET, P-CH 50V 150MA SOT-23 | C 3 |
| Q4 | | INSTALLED ON PREVIOUS ASSEMBLY | F 7 |
| Q5 | | INSTALLED ON PREVIOUS ASSEMBLY | F 7 |
| Q6 | | INSTALLED ON PREVIOUS ASSEMBLY | F 9 |
| Q7 | | INSTALLED ON PREVIOUS ASSEMBLY | F 8 |
| Q8 | C10421-3 | FET, 60V N-CH 2N7002LT1 SOT-23 | B 3 |
| Q9 | C10421-3 | FET, 60V N-CH 2N7002LT1 SOT-23 | C 3 |
| Q10 | C 7448-1 | MMBT3904 CHIP NPN | C 8 |
| Q11 | C10421-3 | FET, 60V N-CH 2N7002LT1 SOT-23 | B 3 |
| Q12 | C 7448-1 | MMBT3904 CHIP NPN | C 8 |
| Q13 | C 7448-1 | MMBT3904 CHIP NPN | O 1 |
| Q14 | C10421-3 | FET, 60V N-CH 2N7002LT1 SOT-23 | C 3 |
| Q15 | C10421-3 | FET, 60V N-CH 2N7002LT1 SOT-23 | C 7 |
| Q16 | 125798-1 | TRANSISTOR,MMBT3906LTI PNP SMT | C 8 |
| Q17 | C 7448-1 | MMBT3904 CHIP NPN | D 4 |
| Q18 | C 7448-1 | MMBT3904 CHIP NPN | D 4 |
| Q19 | | OPEN | D 4 |
| Q20 | C 7448-1 | MMBT3904 CHIP NPN | O 1 |
| Q21 | 125798-1 | TRANSISTOR,MMBT3906LTI PNP SMT | B 9 |
| Q22 | C10421-3 | FET, 60V N-CH 2N7002LT1 SOT-23 | C 8 |
| Q100 | C 7448-1 | MMBT3904 CHIP NPN | P 6 |
| Q101 | 125798-1 | TRANSISTOR,MMBT3906LTI PNP SMT | P 6 |
| Q103 | C 7448-1 | MMBT3904 CHIP NPN | N 2 |
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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 126218-14 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 23 OF 48 | |

PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| Q104 | 126616-1 | XSISTOR, 100V 2A DRLNGTN DPAK | I 13 |
| Q105 | 126616-1 | XSISTOR, 100V 2A DRLNGTN DPAK | I 14 |
| Q106 | | INSTALLED ON PREVIOUS ASSEMBLY | J 9 |
| Q107 | | INSTALLED ON PREVIOUS ASSEMBLY | J 8 |
| Q108 | | INSTALLED ON PREVIOUS ASSEMBLY | J 12 |
| Q109 | | INSTALLED ON PREVIOUS ASSEMBLY | J 11 |
| Q110 | | INSTALLED ON PREVIOUS ASSEMBLY | J 7 |
| Q111 | | INSTALLED ON PREVIOUS ASSEMBLY | J 9 |
| Q112 | | INSTALLED ON PREVIOUS ASSEMBLY | J 12 |
| Q113 | | INSTALLED ON PREVIOUS ASSEMBLY | J 10 |
| Q115 | C 744B-1 | MMBT3904 CHIP NPN | M 4 |
| Q200 | C 744B-1 | MMBT3904 CHIP NPN | P 4 |
| Q201 | 125798-1 | TRANSISTOR, MMBT3906LTI PNP SMT | P 4 |
| Q203 | C 744B-1 | MMBT3904 CHIP NPN | N 2 |
| Q206 | | INSTALLED ON PREVIOUS ASSEMBLY | J 5 |
| Q207 | | INSTALLED ON PREVIOUS ASSEMBLY | J 6 |
| Q208 | | INSTALLED ON PREVIOUS ASSEMBLY | J 2 |
| Q209 | | INSTALLED ON PREVIOUS ASSEMBLY | J 3 |
| Q210 | | INSTALLED ON PREVIOUS ASSEMBLY | J 6 |
| Q211 | | INSTALLED ON PREVIOUS ASSEMBLY | J 4 |
| Q212 | | INSTALLED ON PREVIOUS ASSEMBLY | J 1 |
| Q213 | | INSTALLED ON PREVIOUS ASSEMBLY | J 3 |
| Q215 | C 744B-1 | MMBT3904 CHIP NPN | M 3 |
| Q500 | C 744B-1 | MMBT3904 CHIP NPN | L 1 |
| Q501 | C 744B-1 | MMBT3904 CHIP NPN | L 1 |
| Q600 | C 744B-1 | MMBT3904 CHIP NPN | N 1 |
| Q601 | C 744B-1 | MMBT3904 CHIP NPN | O 1 |
| Q700 | C10421-3 | FET, 60V N-CH 2N7002LT1 SOT-23 | B 9 |
| Q701 | C10421-3 | FET, 60V N-CH 2N7002LT1 SOT-23 | A 9 |
| Q702 | C 9258-2 | BS170RLRM N-MOSFET 60V T/A | B 9 |
| Q703 | 125798-1 | TRANSISTOR, MMBT3906LTI PNP SMT | D 4 |
| R1 | 101103-1 | PTC, 6.0 OHM 265V | D 2 |
| R2 | 101103-1 | PTC, 6.0 OHM 265V | C 2 |
| R3 | C10450-2 | .04 OHM 5W 3% WW VERT MNT | E 1 |
| R4 | C10450-2 | .04 OHM 5W 3% WW VERT MNT | E 2 |
| R5 | C10450-2 | .04 OHM 5W 3% WW VERT MNT | E 2 |
| R6 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | C 3 |
| R7 | A11368-10521 | 10.5K .10W 1% MF 0805 | E 3* |
| R8 | A11368-10521 | 10.5K .10W 1% MF 0805 | E 4* |
| R9 | A11368-27432 | 274K .125W 1% CHIP RES T/R | C 3 |
| R10 | A11368-10521 | 10.5K .10W 1% MF 0805 | E 7* |
| R11 | A11368-10521 | 10.5K .10W 1% MF 0805 | E 7* |
| R12 | A11368-24332 | 243KOHM .125W 1% CHIP RES T/R | A 3 |
| R13 | A11368-10521 | 10.5K .10W 1% MF 0805 | E 9* |
| R14 | A11368-10521 | 10.5K .10W 1% MF 0805 | E 8* |
| R15 | A11368-30112 | 3.01KOHM .125W 1% CHIP RES T/R | B 8 |
| R16 | | OPEN | B 10 |
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|---|---|---|
| A | 126218-14 | A |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R17 | A11371-5R12 | 5.1OHM 0.125W 5% 1206 T/R | E 7* |
| R18 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | D 4 |
| R19 | A10266-5141 | 510. KOHM .25W 5% CF T/R | D 2 |
| R1X | C 8982-8 | TO-220 XSISTOR HOLDER, PLASTIC | D 2 |
| R20 | A10266-5141 | 510. KOHM .25W 5% CF T/R | E 3 |
| R21 | A11368-15831 | 158KOHM .1W 1% 0805 T/R | E 3 |
| R22 | A10265-45331 | 453 KOHM .25W 1% MF T/R | D 2 |
| R23 | A10265-45331 | 453 KOHM .25W 1% MF T/R | E 3 |
| R24 | A11368-12132 | 121KOHM .125W 1% CHIP RES T/R | D 3* |
| R25 | A10265-68131 | 681KOHM .25W 1% MF T/R | D 4 |
| R26 | A10265-68131 | 681KOHM .25W 1% MF T/R | D 4 |
| R27 | A10265-39231 | 392 KOHM .25W 1% MF T/R | C 4 |
| R28 | A10265-39231 | 392 KOHM .25W 1% MF T/R | C 4 |
| R29 | A11368-33R21 | 33.2 OHM 1% 0805 RES T/R | C 3 |
| R2X | C 8982-8 | TO-220 XSISTOR HOLDER, PLASTIC | C 2 |
| R30 | A11368-16221 | 16.2KOHM .1W 1% 0805 T/R | D 4* |
| R31 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | C 4* |
| R32 | A11368-10R03 | 10 OHM 0.25W 1% 1210 T/R | E 4 |
| R33 | A11368-1R004 | 1 OHM 0.5W 1% 2010 T/R | E 3* |
| R34 | A11368-1R004 | 1 OHM 0.5W 1% 2010 T/R | E 4* |
| R35 | A11368-27432 | 274K .125W 1% CHIP RES T/R | B 3 |
| R36 | A11368-37401 | 374. OHM 1/10W 1% SMD 0805 T/R | D 4* |
| R37 | A11371-1002 | 10.OHM 1/8W 5% SMD 1206 T/R | D 4 |
| R38 | A11368-40212 | 4.02KOHM .125W 1% CHIP RES T/R | D 4* |
| R39 | A11368-57621 | 57.6KOHM 0.1W 1% 0805 T/R | D 4* |
| R40 | A11368-40212 | 4.02KOHM .125W 1% CHIP RES T/R | D 4 |
| R41 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | D 3 |
| R42 | 126564-1 | 30OHM 10W 5% VERT THICK FILM | I 14 |
| R43 | A11368-10001 | 100 OHM 1% 0805 RES T/R | M 6* |
| R44 | A11371-5R12 | 5.1OHM 0.125W 5% 1206 T/R | E 7* |
| R45 | A11371-5R12 | 5.1OHM 0.125W 5% 1206 T/R | E 8* |
| R46 | A11371-5R12 | 5.1OHM 0.125W 5% 1206 T/R | E 9* |
| R47 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 8 |
| R48 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | B 9 |
| R49 | A11368-82511 | 8.25KOHM .1W 1% CHIP 0805 | B 8 |
| R50 | A11368-12131 | 121KOHM, 0.10W 1% CHIP 0805 | C 8* |
| R51 | A11368-90921 | 90.9K, 0.10W 1% MF 0805 | C 8 |
| R52 | A11368-15421 | 15.4K 1/10W 1% SMD 0805 T/R | C 8 |
| R53 | A11368-15421 | 15.4K 1/10W 1% SMD 0805 T/R | C 7 |
| R54 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | C 8 |
| R55 | A11368-33R21 | 33.2 OHM 1% 0805 RES T/R | B 3 |
| R56 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | B 3* |
| R57 | A11368-27432 | 274K .125W 1% CHIP RES T/R | B 4 |
| R58 | A11368-33R21 | 33.2 OHM 1% 0805 RES T/R | B 3 |
| R59 | A11368-10001 | 100 OHM 1% 0805 RES T/R | D 8 |
| R60 | A11368-1R001 | 1 OHM .1W 1% 0805 T/R | D 8 |
| R61 | A11368-33R21 | 33.2 OHM 1% 0805 RES T/R | B 3* |
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| A | 126218-14 | | A |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R62 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | A 8 |
| R63 | A11368-10001 | 100 OHM 1% 0805 RES T/R | M 2* |
| R65 | A11368-68131 | 681KOHM .1W 1% 0805 T/R | B 7 |
| R66 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | B 7 |
| R67 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | M 7* |
| R68 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | N 7* |
| R69 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | O 7* |
| R70 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | P 7* |
| R71 | A11368-10001 | 100 OHM 1% 0805 RES T/R | M 6* |
| R72 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 4 |
| R73 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | A 3 |
| R74 | A11368-60411 | 6.04KOHM .1W 1% 0805 T/R | L 3* |
| R75 | | OPEN | A 11 |
| R76 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | B 3 |
| R77 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 3 |
| R78 | A10265-12731 | 127 KOHM .25W 1 MF T/R | A 2 |
| R79 | A10265-12731 | 127 KOHM .25W 1 MF T/R | A 2 |
| R80 | A11371-8211 | 820 OHM .1W 5% 0805 T/R | D 4 |
| R81 | A11368-18202 | 182 OHM .125W 1% 1206 T/R | B 7 |
| R82 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | B 3 |
| R83 | A10266-3902 | 39.0 OHM .5W 5% CF T/R | C 2 |
| R84 | A11368-71531 | 715K 0.1W 1% 0805 T/R | L 8 |
| R85 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | B 8 |
| R86 | A11371-3905 | 39 OHM 1W 5% 2512 T/R | I 14* |
| R87 | A11371-1052 | 1. MOHM .125W 5% CHIP RES T/R | H 13 |
| R88 | A11368-51111 | 5.11KOHM .1W 1% 0805 T/R | H 13 |
| R90 | A11368-39231 | 392 KOHM .1W 1% 0805 T/R | O 1* |
| R91 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | B 10 |
| R92 | A11368-49901 | 499 OHM .1W 1% 0805 T/R | B 7 |
| R93 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | O 1* |
| R94 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | C 7* |
| R95 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 7 |
| R98 | A11368-30101 | 301 OHM .1W 1% 0805 T/R | A 4* |
| R99 | A11368-49921 | 49.9KOHM .1W 1% CHIP 0805 | B 4 |
| R100 | A11368-39224 | 39.2K 0.5W 1% 2010 T/R | N 13 |
| R101 | A11368-17811 | 1.78K 0.1W 1% 0805 SMD T/R | P 5* |
| R102 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 5* |
| R103 | A11368-11021 | 11K 0.1W 1% 0805 T/R | P 5* |
| R104 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 5* |
| R105 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 5* |
| R106 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | P 5* |
| R107 | A11368-23221 | 23.2KOHM .1W 1% 0805 T/R | O 6* |
| R108 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | P 6 |
| R109 | A11368-75011 | 7.50K .10W 1% CHIP 0805 | O 6 |
| R110 | A11368-23201 | 232OHM .1W 1% 0805 T/R | N 7 |
| R111 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 6* |
| R112 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | O 6 |
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| A | 126218-14 | A |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R113 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | O 5 |
| R114 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | N 6 |
| R115 | 127682-1 | 4.99K 0.1% 1206 THIN FILM T/R | P 5* |
| R116 | 127682-1 | 4.99K 0.1% 1206 THIN FILM T/R | P 5* |
| R117 | 127682-1 | 4.99K 0.1% 1206 THIN FILM T/R | O 6* |
| R118 | A11368-48711 | 4.87K OHM .10W 1% 0805 | O 5* |
| R119 | A11368-84511 | 8.45K 0.1W 1% 0805 T/R | O 5* |
| R120 | A11368-84511 | 8.45K 0.1W 1% 0805 T/R | O 5* |
| R121 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 6* |
| R122 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 6* |
| R123 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 6* |
| R124 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 6* |
| R125 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 6* |
| R126 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 6* |
| R127 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 6* |
| R128 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 1* |
| R129 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 6* |
| R130 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 5* |
| R131 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | O 5* |
| R132 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 5* |
| R133 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 6* |
| R134 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | O 6* |
| R135 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 5 |
| R136 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 5 |
| R137 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 6 |
| R138 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 6 |
| R139 | A11368-33R21 | 33.2 OHM 1% 0805 RES T/R | N 7 |
| R140 | A11368-1R004 | 1 OHM 0.5W 1% 2010 T/R | N 7 |
| R141 | A11368-10711 | 1.07KOHM .1W 1% 0805 T/R | N 6 |
| R142 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | M 11 |
| R143 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | M 11 |
| R144 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | M 12* |
| R145 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | M 13* |
| R146 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | N 13* |
| R147 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | N 12* |
| R148 | A11368-10013 | 1K 0.25W 1% 1210 T/R | M 12 |
| R149 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | N 13 |
| R150 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | N 13 |
| R151 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 2* |
| R152 | | OPEN | N 12 |
| R153 | | OPEN | N 12 |
| R154 | A11368-15031 | 150K 1/10W 1% SMD 0805 T/R | N 6 |
| R155 | A11368-10001 | 100 OHM 1% 0805 RES T/R | N 6 |
| R156 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | N 6 |
| R157 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 6 |
| R158 | A11368-12741 | 1.27MOHM .1W 1% 0805 T/R | N 6 |
| R159 | A11368-51111 | 5.11K 1/10W 1% SMD 0805 T/R | N 7 |
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| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| R160 | C10540-0 | 10.KOHM TOP ADJUST TRIMMER T/R | M 6 |
| R161 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | M 7* |
| R162 | A11368-30111 | 3.01K 1/10W 1% SMD 0805 T/R | M 7* |
| R163 | A11368-47511 | 4.75KOHM 0.10W 1% CHIP 0805 | M 7* |
| R164 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | N 7* |
| R165 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | N 7* |
| R166 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | M 7* |
| R167 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | N 7* |
| R168 | A11368-44221 | 44.2K 0.1W 1% 0805 T/R | N 6* |
| R169 | A11368-26111 | 2.61K 0.1W 1% 0805 T/R | N 6* |
| R170 | C 9779-7 | 100KOHM 4MM CERMET TRIM SMT TR | N 5 |
| R171 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | N 6* |
| R172 | A11368-10001 | 100 OHM 1% 0805 RES T/R | N 6* |
| R173 | A11368-10001 | 100 OHM 1% 0805 RES T/R | N 6* |
| R174 | A11368-10531 | 105KOHM .1W 1% 0805 T/R | O 4* |
| R175 | A11368-19111 | 1.91KOHM .1W 1% 0805 T/R | O 4* |
| R176 | A11368-19111 | 1.91KOHM .1W 1% 0805 T/R | O 5* |
| R177 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 5* |
| R178 | C 9777-1 | 1 KOHM 4MM CERMET TRIM SMT T/R | O 5 |
| R179 | A11368-13011 | 1.3KOHM .1W 1% 0805 T/R | O 5 |
| R180 | A11368-25511 | 2.55KOHM .1W 1% 0805 T/R | O 5* |
| R181 | A11368-15011 | 1.5K 1/10W 1% SMD 0805 T/R | O 5* |
| R182 | A11368-16221 | 16.2KOHM .1W 1% 0805 T/R | O 5* |
| R183 | A11368-22111 | 2.21KOHM .1W 1% CHIP 0805 | O 5* |
| R184 | A11368-82511 | 8.25KOHM .1W 1% CHIP 0805 | O 5* |
| R185 | A11368-42211 | 4.22KOHM .1W 1% 0805 T/R | O 5* |
| R186 | A11368-25511 | 2.55KOHM .1W 1% 0805 T/R | O 5* |
| R187 | A11368-60411 | 6.04KOHM .1W 1% 0805 T/R | O 5* |
| R188 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 6* |
| R189 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 6* |
| R190 | A11371-1842 | 180.KOHM .125W 5% CHIP RES T/R | N 2* |
| R191 | A11368-39231 | 392 KOHM .1W 1% 0805 T/R | N 2* |
| R192 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | N 2 |
| R193 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | O 2 |
| R194 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | P 5* |
| R195 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 6* |
| R196 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 6* |
| R197 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 6* |
| R198 | A11368-71531 | 715K 0.1W 1% 0805 T/R | N 12 |
| R199 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | M 5* |
| R200 | A11368-39224 | 39.2K 0.5W 1% 2010 T/R | O 13 |
| R201 | A11368-17811 | 1.78K 0.1W 1% 0805 SMD T/R | P 3* |
| R202 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 3* |
| R203 | A11368-11021 | 11K 0.1W 1% 0805 T/R | P 3* |
| R204 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 3* |
| R205 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 3* |
| R206 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | P 3* |
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| A | 126218-14 | | A |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R207 | A11368-23221 | 23.2KOHM .1W 1% 0805 T/R | O 3* |
| R208 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | P 4 |
| R209 | A11368-75011 | 7.50K .10W 1% CHIP 0805 | O 4 |
| R210 | A11368-23201 | 232OHM .1W 1% 0805 T/R | O 7 |
| R211 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 4* |
| R212 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | O 4 |
| R213 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | O 4 |
| R214 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | N 5 |
| R215 | 127682-1 | 4.99K 0.1% 1206 THIN FILM T/R | P 3* |
| R216 | 127682-1 | 4.99K 0.1% 1206 THIN FILM T/R | P 3* |
| R217 | 127682-1 | 4.99K 0.1% 1206 THIN FILM T/R | O 4* |
| R218 | A11368-48711 | 4.87K OHM .10W 1% 0805 | O 4* |
| R219 | A11368-84511 | 8.45K 0.1W 1% 0805 T/R | O 4* |
| R220 | A11368-84511 | 8.45K 0.1W 1% 0805 T/R | O 3* |
| R221 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 4* |
| R222 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 4* |
| R223 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 4* |
| R224 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 4* |
| R225 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 4* |
| R226 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 4* |
| R227 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 4* |
| R229 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 4* |
| R230 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 4* |
| R231 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | O 4* |
| R232 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 4* |
| R233 | A11368-11011 | RES, 1.1KOHM .1W 1% 0805 | O 3* |
| R234 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | O 3* |
| R235 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 4 |
| R236 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 4 |
| R237 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 3 |
| R238 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 3 |
| R239 | A11368-33R21 | 33.2 OHM 1% 0805 RES T/R | O 7 |
| R240 | A11368-1R004 | 1 OHM 0.5W 1% 2010 T/R | O 7 |
| R241 | A11368-10711 | 1.07KOHM .1W 1% 0805 T/R | O 6 |
| R242 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | P 11 |
| R243 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | P 11 |
| R244 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | O 12* |
| R245 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | O 13* |
| R246 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | P 13* |
| R247 | A11371-1105 | 11 OHM 1W 5% 2512 T/R | P 12* |
| R248 | A11368-10013 | 1K 0.25W 1% 1210 T/R | O 12 |
| R249 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | O 13 |
| R250 | 126538-1 | 18 OHM 5W5% VERT THICK FILM | O 13 |
| R252 | | OPEN | O 12 |
| R253 | | OPEN | O 12 |
| R254 | A11368-15031 | 150K 1/10W 1% SMD 0805 T/R | O 6 |
| R255 | A11368-10001 | 100 OHM 1% 0805 RES T/R | O 6 |
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| SIZE | DWG NO. | | REV |
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| A | 126218-14 | | A |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R256 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | O 6 |
| R257 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | O 6 |
| R258 | A11368-12741 | 1.27MOHM .1W 1% 0805 T/R | O 6 |
| R259 | A11368-51111 | 5.11K 1/10W 1% SMD 0805 T/R | O 7 |
| R260 | C10540-0 | 10.KOHM TOP ADJUST TRIMMER T/R | P 6 |
| R261 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | P 7* |
| R262 | A11368-30111 | 3.01K 1/10W 1% SMD 0805 T/R | O 7* |
| R263 | A11368-47511 | 4.75KOHM 0.10W 1% CHIP 0805 | O 7* |
| R264 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | P 7* |
| R265 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 7* |
| R266 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | O 7* |
| R267 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | P 7* |
| R268 | A11368-44221 | 44.2K 0.1W 1% 0805 T/R | N 4* |
| R269 | A11368-26111 | 2.61K 0.1W 1% 0805 T/R | N 4* |
| R270 | C 9779-7 | 100KOHM 4MM CERMET TRIM SMT TR | N 3 |
| R271 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | N 4* |
| R272 | A11368-10001 | 100 OHM 1% 0805 RES T/R | N 4* |
| R273 | A11368-10001 | 100 OHM 1% 0805 RES T/R | N 4* |
| R274 | A11368-10531 | 105KOHM .1W 1% 0805 T/R | O 3* |
| R275 | A11368-19111 | 1.91KOHM .1W 1% 0805 T/R | O 3* |
| R276 | A11368-19111 | 1.91KOHM .1W 1% 0805 T/R | O 3* |
| R277 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 3* |
| R278 | C 9777-1 | 1 KOHM 4MM CERMET TRIM SMT T/R | O 3 |
| R279 | A11368-13011 | 1.3KOHM .1W 1% 0805 T/R | O 3 |
| R280 | A11368-25511 | 2.55KOHM .1W 1% 0805 T/R | O 3* |
| R281 | A11368-15011 | 1.5K 1/10W 1% SMD 0805 T/R | O 3* |
| R282 | A11368-16221 | 16.2KOHM .1W 1% 0805 T/R | O 3* |
| R283 | A11368-22111 | 2.21KOHM .1W 1% CHIP 0805 | O 3* |
| R284 | A11368-82511 | 8.25KOHM .1W 1% CHIP 0805 | O 3* |
| R285 | A11368-42211 | 4.22KOHM .1W 1% 0805 T/R | O 3* |
| R286 | A11368-25511 | 2.55KOHM .1W 1% 0805 T/R | O 3* |
| R287 | A11368-60411 | 6.04KOHM .1W 1% 0805 T/R | O 3* |
| R288 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 4* |
| R289 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 4* |
| R290 | A11368-49921 | 49.9KOHM .1W 1% CHIP 0805 | O 1 |
| R291 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | O 1* |
| R292 | A11371-6814 | 680 OHM .5W 5% 2010 T/R | M 1 |
| R293 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | O 1* |
| R294 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | P 3* |
| R295 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 4* |
| R296 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 4* |
| R297 | 127681-1 | 24.9K 0.5% 1206 THIN FILM T/R | O 4* |
| R298 | A11368-71531 | 715K 0.1W 1% 0805 T/R | O 12 |
| R299 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | N 3* |
| R300 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | L 3* |
| R301 | | OPEN | P 5* |
| R302 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | L 3* |
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| A | 126218-14 | | A |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R303 | A11368-61902 | 619 OHM .125W 1% CHIP RES T/R | M 5* |
| R304 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | M 5* |
| R305 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | M 5* |
| R307 | A11368-49921 | 49.9KOHM .1W 1% CHIP 0805 | O 1 |
| R308 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | O 1* |
| R309 | A11368-75023 | 75K OHM .25W 1% 1210 | M 4* |
| R310 | A11368-13011 | 1.3KOHM .1W 1% 0805 T/R | M 4* |
| R311 | A11368-33223 | 33.2KOHM 0.25W 1% 1210 T/R | M 4* |
| R312 | A11368-82521 | 82.5K 0.10W 1%CHIP 0805 | M 4* |
| R313 | A11368-39231 | 392 KOHM .1W 1% 0805 T/R | O 1* |
| R314 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | M 4 |
| R315 | A11368-75023 | 75K OHM .25W 1% 1210 | M 3* |
| R316 | A11368-13011 | 1.3KOHM .1W 1% 0805 T/R | M 3* |
| R317 | A11371-3041 | 300.KOHM .1W 5% CHIP 0805 | L 8 |
| R318 | A11368-30121 | 30.1K, 0.10W 1% MF 0805 | L 8 |
| R319 | A11368-63411 | 6.34K 0.10W 1% CHIP 0805 | M 3* |
| R320 | A11368-75023 | 75K OHM .25W 1% 1210 | M 4* |
| R321 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | L 8 |
| R322 | A11368-11021 | 11K 0.1W 1% 0805 T/R | L 8 |
| R323 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | L 8 |
| R324 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | I 13 |
| R325 | 126564-1 | 30OHM 10W 5% VERT THICK FILM | I 14 |
| R326 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 4 |
| R327 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 3 |
| R328 | | OPEN | M 8 |
| R329 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | L 8 |
| R330 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | L 8 |
| R331 | A11368-84511 | 8.45K 0.1W 1% 0805 T/R | L 8 |
| R332 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | I 13 |
| R333 | A11371-3905 | 39 OHM 1W 5% 2512 T/R | I 14* |
| R334 | A11371-3905 | 39 OHM 1W 5% 2512 T/R | I 14* |
| R335 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | L 8 |
| R336 | A11368-19621 | 19.6K OHM .1W 1% 0805 T/R | L 8 |
| R337 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | L 8 |
| R338 | A11368-75011 | 7.50K .10W 1% CHIP 0805 | B 8 |
| R339 | A11368-60411 | 6.04KOHM .1W 1% 0805 T/R | L 11* |
| R340 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | M 4* |
| R341 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | N 4* |
| R342 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 4* |
| R343 | A11368-61901 | 619.OHM 1/10W 1% SMD 0805 T/R | N 2* |
| R344 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | N 2* |
| R345 | A11368-90921 | 90.9K, 0.10W 1% MF 0805 | N 2* |
| R346 | A11371-5141 | 510.KOHM .1W 5% CHIP 0805 | N 2* |
| R347 | A11368-33231 | 332K 0.1W 1% 0805 T/R | O 2* |
| R348 | A11368-22111 | 2.21KOHM .1W 1% CHIP 0805 | P 2 |
| R349 | A11368-14031 | 140KOHM .1W 1% 0805 T/R | P 2 |
| R350 | A11368-22111 | 2.21KOHM .1W 1% CHIP 0805 | P 2 |
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| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R351 | A11368-14031 | 140KOHM .1W 1% 0805 T/R | P 2 |
| R352 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 9 |
| R353 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 9 |
| R354 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | K 9 |
| R355 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 8* |
| R356 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 8* |
| R357 | A11371-1104 | RES 11.0 OHM .5W SMT | J 9 |
| R358 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 9* |
| R359 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 9* |
| R360 | A11371-1104 | RES 11.0 OHM .5W SMT | J 8 |
| R361 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | M 8 |
| R362 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | N 8 |
| R363 | 126564-1 | 30OHM 10W 5% VERT THICK FILM | N 10 |
| R364 | 126564-1 | 30OHM 10W 5% VERT THICK FILM | N 9 |
| R365 | A11371-1104 | RES 11.0 OHM .5W SMT | J 12 |
| R366 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 12* |
| R367 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 12* |
| R368 | A11371-1104 | RES 11.0 OHM .5W SMT | J 10 |
| R369 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 11* |
| R370 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 11* |
| R371 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | K 11 |
| R372 | A11371-1104 | RES 11.0 OHM .5W SMT | K 12 |
| R373 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 11 |
| R374 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 11 |
| R375 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 9* |
| R376 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 7* |
| R377 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 12* |
| R378 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 10* |
| R379 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 9* |
| R380 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 12* |
| R381 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 8* |
| R382 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 11* |
| R383 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | M 8 |
| R384 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | N 8 |
| R385 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | N 6* |
| R386 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | N 6* |
| R387 | A11371-1104 | RES 11.0 OHM .5W SMT | J 7 |
| R388 | | OPEN | P 5* |
| R389 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 6* |
| R390 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 6* |
| R391 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 5* |
| R392 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 5* |
| R393 | A11371-1104 | RES 11.0 OHM .5W SMT | M 7 |
| R394 | A11371-1104 | RES 11.0 OHM .5W SMT | M 7 |
| R395 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | N 6* |
| R396 | A11368-44221 | 44.2K 0.1W 1% 0805 T/R | P 5* |
| R397 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 6* |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R398 | A11368-28011 | 2.80KOHM .10W 1% MF 0805 | P 5* |
| R399 | A11368-23221 | 23.2KOHM .1W 1% 0805 T/R | O 5* |
| R400 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 1* |
| R401 | A11371-6814 | 680 OHM .5W 5% 2010 T/R | O 1 |
| R403 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | C 8 |
| R404 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | A 7 |
| R405 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | A 8 |
| R407 | A11368-15013 | 1.5KOHM .25W 1% 1210 T/R | K 1 |
| R408 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 4* |
| R409 | | OPEN | B 9 |
| R410 | A11368-49901 | 499 OHM .1W 1% 0805 T/R | N 2 |
| R411 | A11368-33223 | 33.2KOHM 0.25W 1% 1210 T/R | M 2* |
| R412 | A11368-82521 | 82.5K 0.10W 1%CHIP 0805 | M 2* |
| R414 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | M 2 |
| R415 | | OPEN | P 4* |
| R417 | A11371-3041 | 300.KOHM .1W 5% CHIP 0805 | M 3* |
| R418 | A11368-30121 | 30.1K, 0.10W 1% MF 0805 | N 3* |
| R419 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 8 |
| R420 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | B 8 |
| R422 | | OPEN | P 4* |
| R424 | A11368-22621 | 22.6K OHM .1W 1% 0805 T/R | D 4 |
| R425 | A11368-49921 | 49.9KOHM .1W 1% CHIP 0805 | A 4 |
| R426 | | OPEN | A 10 |
| R427 | | OPEN | B 10 |
| R428 | | OPEN | B 10 |
| R429 | | OPEN | B 10 |
| R430 | | OPEN | B 11 |
| R431 | | OPEN | B 11 |
| R432 | | OPEN | B 11 |
| R433 | | OPEN | B 11 |
| R434 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 7 |
| R435 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | A 7 |
| R436 | A11368-49901 | 499 OHM .1W 1% 0805 T/R | O 2 |
| R437 | A11368-10001 | 100 OHM 1% 0805 RES T/R | C 3* |
| R438 | A11368-10001 | 100 OHM 1% 0805 RES T/R | D 3* |
| R439 | A11368-10001 | 100 OHM 1% 0805 RES T/R | C 7* |
| R440 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | M 3* |
| R441 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | N 3* |
| R442 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 3* |
| R443 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | N 2* |
| R444 | A11368-61901 | 619.OHM 1/10W 1% SMD 0805 T/R | N 2* |
| R445 | A11368-90921 | 90.9K, 0.10W 1% MF 0805 | N 2* |
| R446 | A11371-5141 | 510.KOHM .1W 5% CHIP 0805 | N 2* |
| R447 | A11368-33231 | 332K 0.1W 1% 0805 T/R | O 2* |
| R448 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | C 7 |
| R449 | A11368-42211 | 4.22KOHM .1W 1% 0805 T/R | C 8 |
| R450 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | C 8 |
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| SIZE | DWG NO. | REV |
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| A | 126218-14 | A |
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| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| R451 | A10266-3041 | 300.KOHM .25W 5% CF T/R | A 2 |
| R452 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 5 |
| R453 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 5 |
| R454 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | K 5 |
| R455 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 6* |
| R456 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 6* |
| R457 | A11371-1104 | RES 11.0 OHM .5W SMT | J 4 |
| R458 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 5* |
| R459 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 5* |
| R460 | A11371-1104 | RES 11.0 OHM .5W SMT | J 6 |
| R461 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | O 8 |
| R462 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | P 8 |
| R463 | 126564-1 | 30OHM 10W 5% VERT THICK FILM | O 10 |
| R464 | 126564-1 | 30OHM 10W 5% VERT THICK FILM | O 9 |
| R465 | A11371-1104 | RES 11.0 OHM .5W SMT | J 2 |
| R466 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 2* |
| R467 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 2* |
| R468 | A11371-1104 | RES 11.0 OHM .5W SMT | J 3 |
| R469 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 3* |
| R470 | A11371-3005 | 30 OHM 1W 5% 2512 T/R | K 3* |
| R471 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | K 2 |
| R472 | A11371-1104 | RES 11.0 OHM .5W SMT | K 1 |
| R473 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 3 |
| R474 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | K 3 |
| R475 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 5* |
| R476 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 6* |
| R477 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 2* |
| R478 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 3* |
| R479 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 4* |
| R480 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 2* |
| R481 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 5* |
| R482 | 125539-1 | 1 OHM 0.25W 5% 1206 | H 3* |
| R483 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | O 8 |
| R484 | 126901-1 | RES, .02 OHM 5W 3% VERTICAL | P 8 |
| R485 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | N 4* |
| R486 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | N 4* |
| R487 | A10266-3041 | 300.KOHM .25W 5% CF T/R | B 6 |
| R488 | A11368-17811 | 1.78K 0.1W 1% 0805 SMD T/R | B 9 |
| R489 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 4* |
| R490 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 3* |
| R491 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 4* |
| R492 | A11368-75R01 | 75.OHM 1/10W 1% SMD 0805 T/R | N 4* |
| R493 | A11371-1104 | RES 11.0 OHM .5W SMT | M 7 |
| R494 | A11371-1104 | RES 11.0 OHM .5W SMT | M 7 |
| R495 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | N 4* |
| R496 | A11368-44221 | 44.2K 0.1W 1% 0805 T/R | P 3* |
| R497 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 4* |
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| A | 126218-14 | A |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R498 | A11368-28011 | 2.80KOHM .10W 1% MF 0805 | P 3* |
| R499 | A11368-23221 | 23.2KOHM .1W 1% 0805 T/R | O 4* |
| R500 | A11368-49931 | 499KOHM .1W 1% 0805 T/R | C 8* |
| R501 | A11371-0R02 | 0. OHM .125W 5% CHIP RES T/R | E 7 |
| R502 | A10266-5141 | 510. KOHM .25W 5% CF T/R | D 2 |
| R503 | A10266-5141 | 510. KOHM .25W 5% CF T/R | D 2 |
| R504 | | OPEN | D 3 |
| R505 | A10266-2751 | 2.7 MOHM .25W 5% CF T/R | B 5 |
| R506 | A10266-2441 | 240. KOHM .25W 5% CF T/R | D 14 |
| R507 | A10266-2441 | 240. KOHM .25W 5% CF T/R | C 14 |
| R508 | A11371-3905 | 39 OHM 1W 5% 2512 T/R | J 14* |
| R509 | A11371-3905 | 39 OHM 1W 5% 2512 T/R | J 14* |
| R510 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | D 4 |
| R511 | A11368-78711 | 7.87K OHM 0.10W 1% 0805 T/R | D 4 |
| R512 | A11371-1222 | 1.2KOHM 1/8W 5% SMD 1206 T/R | D 4 |
| R513 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | D 4 |
| R514 | A11371-1331 | 13KOHM .1W 5% 0805 T/R | D 4 |
| R515 | A11368-30111 | 3.01K 1/10W 1% SMD 0805 T/R | D 4 |
| R516 | | OPEN | D 4* |
| R517 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | M 4 |
| R518 | A11368-30111 | 3.01K 1/10W 1% SMD 0805 T/R | M 4 |
| R519 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | M 6 |
| R522 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 5 |
| R523 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | A 9* |
| R524 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | A 9* |
| R525 | A11368-27432 | 274K .125W 1% CHIP RES T/R | A 9* |
| R526 | A11368-39212 | 3.92 KOHM, 1% MF .125W 1206 | A 9 |
| R527 | A11368-17811 | 1.78K 0.1W 1% 0805 SMD T/R | B 9* |
| R528 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | B 9 |
| R529 | A11368-10011 | 1.KOHM .1W 1% CHIP 0805 | B 9* |
| R530 | A11368-30111 | 3.01K 1/10W 1% SMD 0805 T/R | B 9* |
| R531 | A11368-30121 | 30.1K, 0.10W 1% MF 0805 | C 8* |
| R532 | A11368-10001 | 100 OHM 1% 0805 RES T/R | A 3 |
| R533 | | OPEN | A 3* |
| R534 | A11368-49921 | 49.9KOHM .1W 1% CHIP 0805 | A 3 |
| R535 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | M 5 |
| R536 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | M 5* |
| R537 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | M 5* |
| R538 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | M 5 |
| R539 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | D 8 |
| R540 | A11368-15021 | 15.0K, 0.10W 1% MF 0805 | D 8* |
| R541 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | D 8 |
| R542 | | OPEN | D 8* |
| R543 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | D 8* |
| R544 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | C 8 |
| R545 | A11368-12121 | 12.1KOHM .1W 1% 0805 T/R | C 8 |
| R546 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | D 8 |
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| A | 126218-14 | A |

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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R547 | A11371-0R02 | 0. OHM .125W 5% CHIP RES T/R | E 7 |
| R548 | A11371-0R02 | 0. OHM .125W 5% CHIP RES T/R | E 9 |
| R549 | A11371-0R02 | 0. OHM .125W 5% CHIP RES T/R | E 8 |
| R550 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | M 2* |
| R557 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 1 |
| R558 | A11368-39231 | 392 KOHM .1W 1% 0805 T/R | N 1* |
| R559 | A11368-49902 | 499 OHM .125W 1% 1206 T/R | N 1* |
| R560 | | OPEN | N 1* |
| R561 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | L 1* |
| R562 | A11371-2724 | 2.7 KOHM .5W 5% 2010 T/R | L 1 |
| R563 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | O 1* |
| R564 | | OPEN | N 1* |
| R565 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 2* |
| R566 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | L 1* |
| R567 | A11371-2724 | 2.7 KOHM .5W 5% 2010 T/R | L 1 |
| R657 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 1 |
| R658 | A11368-39231 | 392 KOHM .1W 1% 0805 T/R | N 1* |
| R659 | A11368-49902 | 499 OHM .125W 1% 1206 T/R | N 1* |
| R660 | | OPEN | N 1* |
| R661 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | N 1* |
| R662 | A11371-2724 | 2.7 KOHM .5W 5% 2010 T/R | N 1 |
| R663 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | N 1* |
| R664 | | OPEN | O 1* |
| R665 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | O 2* |
| R666 | A11368-20021 | 20.KOHM .1W 1% CHIP 0805 | O 1* |
| R667 | A11371-2724 | 2.7 KOHM .5W 5% 2010 T/R | O 1 |
| R700 | A11368-15013 | 1.5KOHM .25W 1% 1210 T/R | B 9 |
| R701 | A11368-10001 | 100 OHM 1% 0805 RES T/R | B 8* |
| R702 | A11371-4741 | 470KOHM .1W 5% CHIP 0805 | B 8* |
| R703 | A11368-12121 | 12.1KOHM .1W 1% 0805 T/R | B 8 |
| R704 | A11368-20031 | 200K 0.1W 1% SMD CHIP 0805 | B 8* |
| R705 | A11371-2023 | 2K OHM .25W 5% 1210 T/R | B 9 |
| R706 | A11371-2023 | 2K OHM .25W 5% 1210 T/R | B 9 |
| R707 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 8 |
| R708 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 9 |
| R709 | A11368-10R03 | 10 OHM 0.25W 1% 1210 T/R | L 6 |
| R710 | A11368-10R03 | 10 OHM 0.25W 1% 1210 T/R | L 6 |
| R711 | 128184-3 | NTC, 20K #8 PRI SEC ISO | E 13 |
| R712 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | E 12 |
| R713 | 127517-2 | NTC, 20K J 10% | C 13 |
| R714 | A11368-48711 | 4.87K OHM .10W 1% 0805 | C 12 |
| R715 | A11368-22131 | 221 KOHM .1W 1% 0805 T/R | D 3* |
| R716 | A11368-36521 | 36.5K OHM 0.1W 1% 0805 T/R | D 3* |
| R717 | A11368-35712 | 3.57KOHM .125W 1% CHIP RES T/R | B 6 |
| R718 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 12 |
| R719 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 11 |
| R720 | A11371-1104 | RES 11.0 OHM .5W SMT | J 10 |
| R721 | A11371-1104 | RES 11.0 OHM .5W SMT | J 12 |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R722 | A11371-1104 | RES 11.0 OHM .5W SMT | J 9 |
| R723 | A11371-0R01 | 0 OHM 0.1W CHIP 0805 | C 8 |
| R724 | | OPEN | C 8* |
| R730 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 5* |
| R731 | A11368-22111 | 2.21KOHM .1W 1% CHIP 0805 | M 4 |
| R732 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | N 5 |
| R798 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 5* |
| R799 | A11368-26721 | 26.7KOHM .1W 1% 0805 T/R | P 5* |
| R800 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | B 3 |
| R801 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | B 3 |
| R802 | A11368-49911 | 4.99K 1/10W 1% SMD 0805 T/R | B 3 |
| R805 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | C 7 |
| R807 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 6 |
| R808 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 5 |
| R809 | A11371-1104 | RES 11.0 OHM .5W SMT | J 4 |
| R810 | A11371-1104 | RES 11.0 OHM .5W SMT | J 6 |
| R811 | A11371-1104 | RES 11.0 OHM .5W SMT | J 1 |
| R812 | A11371-1104 | RES 11.0 OHM .5W SMT | J 3 |
| R813 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 2 |
| R814 | A11371-0R04 | 0 OHM 1/2W 5% 2010 T/R | J 3 |
| R830 | A11368-10031 | 100.KOHM .1W 1% CHIP 0805 | O 3* |
| R831 | A11368-22111 | 2.21KOHM .1W 1% CHIP 0805 | M 2 |
| R832 | A11368-10041 | 1M OHM .1W 1% CHIP 0805 | N 4 |
| R889 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | P 3* |
| R899 | A11368-26721 | 26.7KOHM .1W 1% 0805 T/R | P 3* |
| RT1 | 127518-3 | NTC 20K J 10% #8 RING | K 11 |
| RT2 | 127518-3 | NTC 20K J 10% #8 RING | K 3 |
| T1 | 126012-1 | XFMR, 400V/150V CT | D 11 |
| T2 | 127522-2 | XFMR, 125KHZ 15V GATE DRIVE | E 7 |
| T3 | 127522-2 | XFMR, 125KHZ 15V GATE DRIVE | E 9 |
| T4 | 126072-1 | XFMR, CURRENT SENSE | C 9 |
| T4X | 101128-1 | WIRE, K2 CURRENT SENSE | C 9 |
| T100 | H43628-9 | XFMR D350 100:1 CURRENT SENSE | N 11 |
| T100X | 101128-1 | WIRE, K2 CURRENT SENSE | N 11 |
| T101 | 126863-1 | XFMR, BCA GATE SUPPLY | K 7 |
| T101X | 101128-1 | WIRE, K2 CURRENT SENSE | K 7 |
| T200 | H43628-9 | XFMR D350 100:1 CURRENT SENSE | P 11 |
| T201 | 126863-1 | XFMR, BCA GATE SUPPLY | K 7 |
| TP1 | 127064-1 | TEST POINT, SMT 1206 | N 6 |
| TP2 | 127064-1 | TEST POINT, SMT 1206 | C 4 |
| TP3 | 127064-1 | TEST POINT, SMT 1206 | L 8 |
| TP5 | 127064-1 | TEST POINT, SMT 1206 | E 3 |
| TP6 | 127064-1 | TEST POINT, SMT 1206 | A 4 |
| TP7 | 127064-1 | TEST POINT, SMT 1206 | D 7 |
| TP8 | 127064-1 | TEST POINT, SMT 1206 | E 4 |
| TP9 | 127064-1 | TEST POINT, SMT 1206 | C 8 |
| TP10 | 127064-1 | TEST POINT, SMT 1206 | N 6 |
| TP11 | 127064-1 | TEST POINT, SMT 1206 | C 8 |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| TP12 | 127064-1 | TEST POINT, SMT 1206 | C 7 |
| TP13 | 127064-1 | TEST POINT, SMT 1206 | D 8 |
| TP14 | 127064-1 | TEST POINT, SMT 1206 | E 8 |
| TP15 | 127064-1 | TEST POINT, SMT 1206 | E 7 |
| TP16 | 127064-1 | TEST POINT, SMT 1206 | D 9 |
| TP17 | 127064-1 | TEST POINT, SMT 1206 | E 8 |
| TP27 | 127064-1 | TEST POINT, SMT 1206 | E 7 |
| TP28 | 127064-1 | TEST POINT, SMT 1206 | E 7 |
| TP29 | 127064-1 | TEST POINT, SMT 1206 | E 7 |
| TP30 | 127064-1 | TEST POINT, SMT 1206 | E 9 |
| TP31 | 127064-1 | TEST POINT, SMT 1206 | E 8 |
| TP32 | 127064-1 | TEST POINT, SMT 1206 | E 8 |
| TP33 | 127064-1 | TEST POINT, SMT 1206 | B 7 |
| TP34 | 127064-1 | TEST POINT, SMT 1206 | C 7 |
| TP35 | 127064-1 | TEST POINT, SMT 1206 | C 7 |
| TP36 | 127064-1 | TEST POINT, SMT 1206 | C 8 |
| TP37 | 127064-1 | TEST POINT, SMT 1206 | J 7 |
| TP38 | 127064-1 | TEST POINT, SMT 1206 | K 11 |
| TP39 | 127064-1 | TEST POINT, SMT 1206 | A 3 |
| TP40 | 127064-1 | TEST POINT, SMT 1206 | B 3 |
| TP41 | 127064-1 | TEST POINT, SMT 1206 | C 3 |
| TP43 | 127064-1 | TEST POINT, SMT 1206 | B 3 |
| TP45 | 127064-1 | TEST POINT, SMT 1206 | B 2 |
| TP46 | 127064-1 | TEST POINT, SMT 1206 | B 3 |
| TP47 | 127064-1 | TEST POINT, SMT 1206 | H 13 |
| TP48 | 127064-1 | TEST POINT, SMT 1206 | B 11 |
| TP49 | 127064-1 | TEST POINT, SMT 1206 | A 8 |
| TP50 | 127064-1 | TEST POINT, SMT 1206 | E 8 |
| TP91 | 127064-1 | TEST POINT, SMT 1206 | B 8 |
| TP100 | 127064-1 | TEST POINT, SMT 1206 | P 6 |
| TP101 | 127064-1 | TEST POINT, SMT 1206 | P 5 |
| TP102 | 127064-1 | TEST POINT, SMT 1206 | N 6 |
| TP103 | 127064-1 | TEST POINT, SMT 1206 | M 10 |
| TP104 | 127064-1 | TEST POINT, SMT 1206 | O 5 |
| TP105 | 127064-1 | TEST POINT, SMT 1206 | P 6 |
| TP143 | 127064-1 | TEST POINT, SMT 1206 | A 8 |
| TP162 | 127064-1 | TEST POINT, SMT 1206 | B 9 |
| TP200 | 127064-1 | TEST POINT, SMT 1206 | P 4 |
| TP201 | 127064-1 | TEST POINT, SMT 1206 | P 3 |
| TP202 | 127064-1 | TEST POINT, SMT 1206 | N 4 |
| TP203 | 127064-1 | TEST POINT, SMT 1206 | P 10 |
| TP204 | 127064-1 | TEST POINT, SMT 1206 | O 3 |
| TP205 | 127064-1 | TEST POINT, SMT 1206 | P 4 |
| TP243 | 127064-1 | TEST POINT, SMT 1206 | K 2 |
| TP244 | 127064-1 | TEST POINT, SMT 1206 | J 7 |
| TP245 | 127064-1 | TEST POINT, SMT 1206 | O 6 |
| TP247 | 127064-1 | TEST POINT, SMT 1206 | M 6 |
| TP248 | 127064-1 | TEST POINT, SMT 1206 | M 3 |
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|---|---|---|---|
| TP249 | 127064-1 | TEST POINT, SMT 1206 | A 2 |
| TP251 | 127064-1 | TEST POINT, SMT 1206 | B 6 |
| TP252 | 127064-1 | TEST POINT, SMT 1206 | A 4 |
| TP253 | 127064-1 | TEST POINT, SMT 1206 | C 8 |
| TP254 | 127064-1 | TEST POINT, SMT 1206 | O 3 |
| TP255 | 127064-1 | TEST POINT, SMT 1206 | P 2 |
| TP256 | 127064-1 | TEST POINT, SMT 1206 | C 7 |
| TP257 | 127064-1 | TEST POINT, SMT 1206 | N 5 |
| U1 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | N 1 |
| U2 | 128279-1 | IC, SGSL4981B PFC CONTROL | D 3 |
| U3 | C 8262-5 | MC33078D LOW NOISE DUAL OP AMP | O 1 |
| U4 | 126681-1 | IC, PWN CONT PHASE SHIFT | D 8 |
| U5 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | C 8 |
| U6 | 125868-1 | OP AMP TL074CD SMT | O 6 |
| U7 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | B 7 |
| U8 | 126561-1 | REG, +5V LOW POWER SO-8 | N 3 |
| U9 | 127145-1 | DVR, 1.5A DUAL SO-8 MOSFET | E 3 |
| U10 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | A 3 |
| U11 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | A 3 |
| U12 | 126633-1 | REGULATOR, 15V SO-8 | A 4 |
| U13 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | C 3 |
| U14 | 126561-1 | REG, +5V LOW POWER SO-8 | G 14 |
| U15 | 126653-1 | SGL 2 INPUT NOR GATE SOT-23-5 | H 14 |
| U16 | 125867-1 | MC74HC4024D 7 STAGE COUNTER SM | H 13 |
| U17 | 127145-1 | DVR, 1.5A DUAL SO-8 MOSFET | E 7 |
| U18 | 128383-1 | OPTO HCNW2211 IEC65 COMPLIANT | B 10 |
| U19 | 126561-1 | REG, +5V LOW POWER SO-8 | C 7 |
| U20 | 128382-1 | OPTO SFH615A-2 IEC65 COMPLIANT | A 10 |
| U21 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | A 9 |
| U22 | 125541-1 | DRVR, 600V IR2104 HALF BRIDGE | L 6 |
| U23 | 126553-1 | IC, 20V 0.135OHM SO8 DUAL NMOS | L 6 |
| U24 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | A 4 |
| U25 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | C 3 |
| U26 | 127145-1 | DVR, 1.5A DUAL SO-8 MOSFET | E 3 |
| U27 | 126633-1 | REGULATOR, 15V SO-8 | E 4 |
| U28 | C 5095-2 | MC7815CT +15V. REG | D 7 |
| U29 | 127145-1 | DVR, 1.5A DUAL SO-8 MOSFET | E 9 |
| U30 | 128382-1 | OPTO SFH615A-2 IEC65 COMPLIANT | A 9 |
| U31 | 127145-1 | DVR, 1.5A DUAL SO-8 MOSFET | E 7 |
| U32 | 127145-1 | DVR, 1.5A DUAL SO-8 MOSFET | E 8 |
| U33 | | OPEN | A 10 |
| U34 | | OPEN | B 10 |
| U35 | C10344-7 | 74HC74AD DUAL D FLIP FLOP SOIC | C 7 |
| U36 | 128382-1 | OPTO SFH615A-2 IEC65 COMPLIANT | A 10 |
| U37 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | D 8 |
| U99 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | B 8 |
| U100 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | P 5 |
| U101 | 126548-1 | COMPARATOR, LM361 HI SPD SO-14 | N 5 |
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PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| U102 | 126561-1 | REG, +5V LOW POWER SO-8 | N 5 |
| U103 | 126548-1 | COMPARATOR, LM361 HI SPD SO-14 | N 6 |
| U104 | 126561-1 | REG, +5V LOW POWER SO-8 | N 6 |
| U105 | 125869-1 | OP AMP LM318M SMT | N 6 |
| U106 | 126540-1 | IC,QUAD 2 INPUT NOR GATE SO-14 | M 6 |
| U107 | 125545-1 | HCPL0601 HI SPEED OPTO | M 7 |
| U108 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | N 7 |
| U110 | C 8262-5 | MC33078D LOW NOISE DUAL OP AMP | P 5 |
| U111 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | O 5 |
| U112 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | O 2 |
| U113 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | M 5 |
| U114 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | M 4 |
| U115 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | L 8 |
| U116 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | M 4 |
| U117 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | O 2 |
| U118 | 126561-1 | REG, +5V LOW POWER SO-8 | K 8 |
| U119 | 125546-1 | HCPL0611 HI SPEED OPTO | K 9 |
| U120 | 125544-1 | MC34151D HISPD DUAL MOSFET DVR | J 9 |
| U121 | 125544-1 | MC34151D HISPD DUAL MOSFET DVR | J 11 |
| U122 | 126561-1 | REG, +5V LOW POWER SO-8 | K 11 |
| U123 | 125545-1 | HCPL0601 HI SPEED OPTO | K 11 |
| U124 | C10344-7 | 74HC74AD DUAL D FLIP FLOP SOIC | L 6 |
| U125 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | N 2 |
| U200 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | P 4 |
| U201 | 126548-1 | COMPARATOR, LM361 HI SPD SO-14 | N 4 |
| U202 | 126561-1 | REG, +5V LOW POWER SO-8 | N 4 |
| U203 | 126548-1 | COMPARATOR, LM361 HI SPD SO-14 | N 3 |
| U204 | 126561-1 | REG, +5V LOW POWER SO-8 | N 3 |
| U205 | 125869-1 | OP AMP LM318M SMT | N 4 |
| U207 | 125545-1 | HCPL0601 HI SPEED OPTO | P 7 |
| U208 | 126559-1 | COMPARATOR, LM393 SO-8 DUAL | P 7 |
| U210 | C 8262-5 | MC33078D LOW NOISE DUAL OP AMP | P 3 |
| U211 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | O 3 |
| U213 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | M 4 |
| U214 | C 9038-8 | COMPARATOR, QUAD LM339D SO-14 | M 3 |
| U218 | 126561-1 | REG, +5V LOW POWER SO-8 | K 4 |
| U219 | 125546-1 | HCPL0611 HI SPEED OPTO | K 5 |
| U220 | 125544-1 | MC34151D HISPD DUAL MOSFET DVR | J 5 |
| U221 | 125544-1 | MC34151D HISPD DUAL MOSFET DVR | J 3 |
| U222 | 126561-1 | REG, +5V LOW POWER SO-8 | K 2 |
| U223 | 125545-1 | HCPL0601 HI SPEED OPTO | K 3 |
| U224 | C10344-7 | 74HC74AD DUAL D FLIP FLOP SOIC | N 5 |
| Y1 | C10476-7 | CRYSTAL, 4 MHZ HC49U SERIES | G 13 |
| 1 | 126583-8 | PWB, CE4000 MAIN | |
| | | | |
| 3 | 103415-10805 | SCREW, 8-32X.312 TORX PNHD SEM | |
| 4 | 126923-4 | INSULATOR, CE4K HEATSINK NOMEX | |
| 5 | 128130-1 | RIVET, CE4000 INS RET PLASTIC | |
| | | | |
| | | | |

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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 126218-14 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 40 OF 48 | |

***CE4000 MAIN*** PWA NUMBER: 126218-14

DRAWING SHEET: 41

***CE4000 MAIN*** PWA NUMBER: 126218-14
DRAWING SHEET: 42

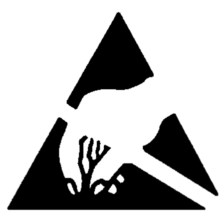
REVISION HISTORY

| E.C.N. | REV | DESCRIPTION | DATE | APPROVED DWN | CHK | CM | PE |
|---|---|---|---|---|---|---|---|
| 00N0563 | A | RELEASE FOR PRODUCTION | 06-15-00 | JAW | JCM | CB | EB |

UNLESS OTHERWISE SPECIFIED, THIS PRINTED WIRING ASSEMBLY SHALL MEET THE SPECIFICATION DESCRIBED IN IPC-A-610_ CLASS 2 STANDARDS.

NOTES:

1. PRINTED WIRING BOARD PART NUMBER 126827-8.
2. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
3. POSITION COMPONENTS AS SHOWN ON COMPONENT MAPS.
4. THE PRINTED WIRING ASSEMBLY PART NUMBER FOR THIS ASSEMBLY SHALL BE MARKED ON THE PRINTED WIRING BOARD AND SHALL BE PERMANENT.
5. MAP LOCATIONS DENOTED BY AN ASTERISK (*), INDICATE COMPONENTS MOUNTED ON THE BOTTOM SIDE OF THE PRINTED WIRING BOARD.
6. INSTALL 102472-3 IN J2 USING POSITIONS 1 THRU 12.



CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

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| DO NOT SCALE DRAWING | | |

| | | |
|---|---|---|
| DWN | JAW | 06-15-00 |
| CHK | JCM | 6-15-00 |
| CM | CB | 6/15/00 |
| PE | EB | 6-15-00 |

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TITLE

PWA, CE4000 BFG

| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126828-7 | A |

SCALE | PROJ NO. MD425D0 | SHEET SHEET 1 OF 8

| PARTS LIST | | | |
|---|---|---|---|
| C.P.N. | DESCRIPTION | QTY | REFERENCE DESIGNATION |
| A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | 17 | R7,R8,R9,R10,R11,R12,R25, |
| | | | R26,R31,R32,R33,R34,R47, |
| | | | R50,R55,R57,R59 |
| A11368-10R03 | 10 OHM 0.25W 1% 1210 T/R | 1 | R49 |
| A11368-11321 | 11.3KOHM .1W 1% CHIP 0805 | 4 | R5,R19,R29,R41 |
| A11368-14331 | 143K OHM .1W 1% 0805 T/R | 2 | R13,R35 |
| A11368-15011 | 1.5K 1/10W 1% SMD 0805 T/R | 1 | R48 |
| A11368-15021 | 15.0K, 0.10W 1% MF 0805 | 2 | R18,R40 |
| A11368-15831 | 158KOHM .1W 1% 0805 T/R | 2 | R24,R46 |
| A11368-19631 | 196K OHM .1W 1% 0805 T/R | 2 | R23,R45 |
| A11368-20011 | 2.0K, 0.10W 1% MF 0805 | 2 | R2,R27 |
| A11368-22621 | 22.6K OHM .1W 1% 0805 T/R | 2 | R16,R38 |
| A11368-26111 | 2.61K 0.1W 1% 0805 T/R | 2 | R4,R28 |
| A11368-26131 | 261K OHM .1W 1% 0805 T/R | 2 | R22,R44 |
| A11368-28722 | RES 28.7K 1% SMD 1206 | 2 | R15,R37 |
| A11368-30101 | 301 OHM .1W 1% 0805 T/R | 2 | R52,R53 |
| A11368-38322 | RES 38.3K 1% SMD 1206 | 2 | R14,R36 |
| A11368-56221 | 56.2K OHM .1W 1% 0805 T/R | 2 | R17,R39 |
| A11368-88711 | 8.87KOHM .1W 1% CHIP 0805 | 4 | R6,R20,R30,R42 |
| A11368-97631 | 976K OHM .1W 1% 0805 T/R | 2 | R21,R43 |
| A11369-330J2 | 33 PF 50V 5% NPO MLC 0805 | 3 | C2,C38,C39 |
| A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | 8 | C30,C31,C32,C33,C34,C35, |
| | | | C36,C37 |
| A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | 6 | C11,C12,C13,C25,C26,C27 |
| A11427-124K5 | 0.12 50V 10% CHIP X7R 1206 | 4 | C6,C10,C20,C24 |
| A11427-154K5 | 0.15 50V 10% CHIPX7R 1206 | 4 | C5,C9,C19,C23 |
| A11427-224J5 | 0.22UF 50V 5% X7R 1206 T/R | 4 | C4,C8,C18,C22 |
| A11427-274K5 | 0.27UF 50V 105 X7R 1206 T/R | 4 | C3,C7,C17,C21 |
| C 7251-9 | .22UF 25V CHIP CAPACITOR | 2 | C15,C29 |
| C 7325-1 | 2POLE 2POS PC SLIDE SWITCH | 1 | S2 |
| C 8262-5 | MC33078D LOW NOISE DUAL OP AMP | 2 | U3,U4 |
| C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | 2 | U6,U7 |
| C 9049-5 | 100PF 100V CERAMIC CHIP CAP | 2 | C1,C16 |
| 101993-1 | JACK, 6P4 COND MODULAR R/A | 1 | J3 |
| 102472-3 | CONN, 12POS .1CTR ASSY SGL ROW | 1 | J2 |
| 102486-1 | OPTO BJT NPN SOIC-8 CTR=100% | 1 | U5 |
| 102723-2 | OPTOCELL ON<.5KOHM OFF>10M5SEC | 2 | U1,U2 |
| 125798-1 | TRANSISTOR,MMBT3906LTI PNP SMT | 1 | Q1 |
| 126827-8 | PWB, CE4000 BFG | 1 | 1 |
| 127386-1 | SWITCH, 4P3T SLIDE R/A PCB MNT | 2 | S3,S4 |
| 127387-1 | SWITCH, 4P4T SLIDE R/A PCB MNT | 2 | S5,S6 |
| 127412-1 | SWITCH, DP3T SLIDE R/A PCB MNT | 1 | S1 |
| 128180-1 | 2.2UF 25V +80/-20 Y5V 1206 CAP | 2 | C14,C28 |
| 128182-4 | CABLE, 26POS AMP-3M BFG MAIN | 1 | J1 |
| | | | |
| | | | |
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| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126828-7 | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 2 OF 8 |

| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| C1 | C 9049-5 | 100PF 100V CERAMIC CHIP CAP | F 2 |
| C2 | A11369-330J2 | 33 PF 50V 5% NPO MLC 0805 | F 1* |
| C3 | A11427-274K5 | 0.27UF 50V 105 X7R 1206 T/R | B 1* |
| C4 | A11427-224J5 | 0.22UF 50V 5% X7R 1206 T/R | B 1 |
| C5 | A11427-154K5 | 0.15 50V 10% CHIPX7R 1206 | B 1* |
| C6 | A11427-124K5 | 0.12 50V 10% CHIP X7R 1206 | B 1 |
| C7 | A11427-274K5 | 0.27UF 50V 105 X7R 1206 T/R | B 1* |
| C8 | A11427-224J5 | 0.22UF 50V 5% X7R 1206 T/R | B 1 |
| C9 | A11427-154K5 | 0.15 50V 10% CHIPX7R 1206 | B 1* |
| C10 | A11427-124K5 | 0.12 50V 10% CHIP X7R 1206 | B 1 |
| C11 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 1 |
| C12 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 1 |
| C13 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 1 |
| C14 | 128180-1 | 2.2UF 25V +80/-20 Y5V 1206 CAP | A 1 |
| C15 | C 7251-9 | .22UF 25V CHIP CAPACITOR | A 1 |
| C16 | C 9049-5 | 100PF 100V CERAMIC CHIP CAP | E 2 |
| C17 | A11427-274K5 | 0.27UF 50V 105 X7R 1206 T/R | D 1* |
| C18 | A11427-224J5 | 0.22UF 50V 5% X7R 1206 T/R | D 1 |
| C19 | A11427-154K5 | 0.15 50V 10% CHIPX7R 1206 | D 1* |
| C20 | A11427-124K5 | 0.12 50V 10% CHIP X7R 1206 | D 1 |
| C21 | A11427-274K5 | 0.27UF 50V 105 X7R 1206 T/R | D 1* |
| C22 | A11427-224J5 | 0.22UF 50V 5% X7R 1206 T/R | D 1 |
| C23 | A11427-154K5 | 0.15 50V 10% CHIPX7R 1206 | D 1* |
| C24 | A11427-124K5 | 0.12 50V 10% CHIP X7R 1206 | D 1 |
| C25 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | C 1 |
| C26 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | C 1 |
| C27 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | C 1 |
| C28 | 128180-1 | 2.2UF 25V +80/-20 Y5V 1206 CAP | C 1 |
| C29 | C 7251-9 | .22UF 25V CHIP CAPACITOR | C 1 |
| C30 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | E 1* |
| C31 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | E 1* |
| C32 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | F 1* |
| C33 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | F 1* |
| C34 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | B 1* |
| C35 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | A 1* |
| C36 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | D 1* |
| C37 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | C 1* |
| C38 | A11369-330J2 | 33 PF 50V 5% NPO MLC 0805 | A 1 |
| C39 | A11369-330J2 | 33 PF 50V 5% NPO MLC 0805 | C 1 |
| J1 | 128182-4 | CABLE, 26POS AMP-3M BFG MAIN | G 1 |
| J2 | 102472-3 | CONN, 12POS .1CTR ASSY SGL ROW | E 1 |
| J3 | 101993-1 | JACK, 6P4 COND MODULAR R/A | F 2 |
| Q1 | 125798-1 | TRANSISTOR,MMBT3906LTI PNP SMT | F 1 |
| R2 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | F 1 |
| R4 | A11368-26111 | 2.61K 0.1W 1% 0805 T/R | F 2 |



| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126828-7 | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 3 OF 8 |

| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| R5 | A11368-11321 | 11.3KOHM .1W 1% CHIP 0805 | F 2 |
| R6 | A11368-88711 | 8.87KOHM .1W 1% CHIP 0805 | F 2 |
| R7 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | F 2* |
| R8 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | F 1* |
| R9 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | B 1 |
| R10 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | B 1 |
| R11 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | B 1 |
| R12 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | B 1 |
| R13 | A11368-14331 | 143K OHM .1W 1% 0805 T/R | B 1* |
| R14 | A11368-38322 | RES 38.3K 1% SMD 1206 | A 1* |
| R15 | A11368-28722 | RES 28.7K 1% SMD 1206 | A 1* |
| R16 | A11368-22621 | 22.6K OHM .1W 1% 0805 T/R | A 1 |
| R17 | A11368-56221 | 56.2K OHM .1W 1% 0805 T/R | A 1 |
| R18 | A11368-15021 | 15.0K, 0.10W 1% MF 0805 | A 1 |
| R19 | A11368-11321 | 11.3KOHM .1W 1% CHIP 0805 | A 1 |
| R20 | A11368-88711 | 8.87KOHM .1W 1% CHIP 0805 | A 1* |
| R21 | A11368-97631 | 976K OHM .1W 1% 0805 T/R | A 1 |
| R22 | A11368-26131 | 261K OHM .1W 1% 0805 T/R | A 1 |
| R23 | A11368-19631 | 196K OHM .1W 1% 0805 T/R | A 1 |
| R24 | A11368-15831 | 158KOHM .1W 1% 0805 T/R | A 1 |
| R25 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | B 1 |
| R26 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | F 1 |
| R27 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | E 1 |
| R28 | A11368-26111 | 2.61K 0.1W 1% 0805 T/R | E 2 |
| R29 | A11368-11321 | 11.3KOHM .1W 1% CHIP 0805 | E 2 |
| R30 | A11368-88711 | 8.87KOHM .1W 1% CHIP 0805 | E 2* |
| R31 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | D 1 |
| R32 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | D 1 |
| R33 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | D 1 |
| R34 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | D 1 |
| R35 | A11368-14331 | 143K OHM .1W 1% 0805 T/R | D 1 |
| R36 | A11368-38322 | RES 38.3K 1% SMD 1206 | C 1* |
| R37 | A11368-28722 | RES 28.7K 1% SMD 1206 | C 1* |
| R38 | A11368-22621 | 22.6K OHM .1W 1% 0805 T/R | C 1 |
| R39 | A11368-56221 | 56.2K OHM .1W 1% 0805 T/R | C 1 |
| R40 | A11368-15021 | 15.0K, 0.10W 1% MF 0805 | C 1 |
| R41 | A11368-11321 | 11.3KOHM .1W 1% CHIP 0805 | C 1 |
| R42 | A11368-88711 | 8.87KOHM .1W 1% CHIP 0805 | C 1 |
| R43 | A11368-97631 | 976K OHM .1W 1% 0805 T/R | D 1 |
| R44 | A11368-26131 | 261K OHM .1W 1% 0805 T/R | C 1 |
| R45 | A11368-19631 | 196K OHM .1W 1% 0805 T/R | C 1 |
| R46 | A11368-15831 | 158KOHM .1W 1% 0805 T/R | C 1 |
| R47 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | F 1 |
| R48 | A11368-15011 | 1.5K 1/10W 1% SMD 0805 T/R | F 1 |
| R49 | A11368-10R03 | 10 OHM 0.25W 1% 1210 T/R | B 1* |
| R50 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | A 1 |
| R51 | | OPEN | A 1 |
| | | | |
| | | | |
| | | | |



| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126828-7 | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 4 OF 8 |

PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R52 | A11368-30101 | 301 OHM .1W 1% 0805 T/R | E 1 |
| R53 | A11368-30101 | 301 OHM .1W 1% 0805 T/R | D 1 |
| R55 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | C 1 |
| R56 | | OPEN | C 1 |
| R57 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | D 1 |
| R59 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | E 1 |
| S1 | 127412-1 | SWITCH, DP3T SLIDE R/A PCB MNT | F 2 |
| S2 | C 7325-1 | 2POLE 2POS PC SLIDE SWITCH | E 2 |
| S3 | 127386-1 | SWITCH, 4P3T SLIDE R/A PCB MNT | B 2 |
| S4 | 127386-1 | SWITCH, 4P3T SLIDE R/A PCB MNT | D 2 |
| S5 | 127387-1 | SWITCH, 4P4T SLIDE R/A PCB MNT | A 2 |
| S6 | 127387-1 | SWITCH, 4P4T SLIDE R/A PCB MNT | C 2 |
| U1 | 102723-2 | OPTOCELL ON<.5KOHM OFF>10M5SEC | E 1 |
| U2 | 102723-2 | OPTOCELL ON<.5KOHM OFF>10M5SEC | D 1 |
| U3 | C 8262-5 | MC33078D LOW NOISE DUAL OP AMP | F 1 |
| U4 | C 8262-5 | MC33078D LOW NOISE DUAL OP AMP | E 1 |
| U5 | 102486-1 | OPTO BJT NPN SOIC-8 CTR=100% | F 1 |
| U6 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | A 1 |
| U7 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | C 1 |
| 1 | 126827-8 | PWB, CE4000 BFG | |

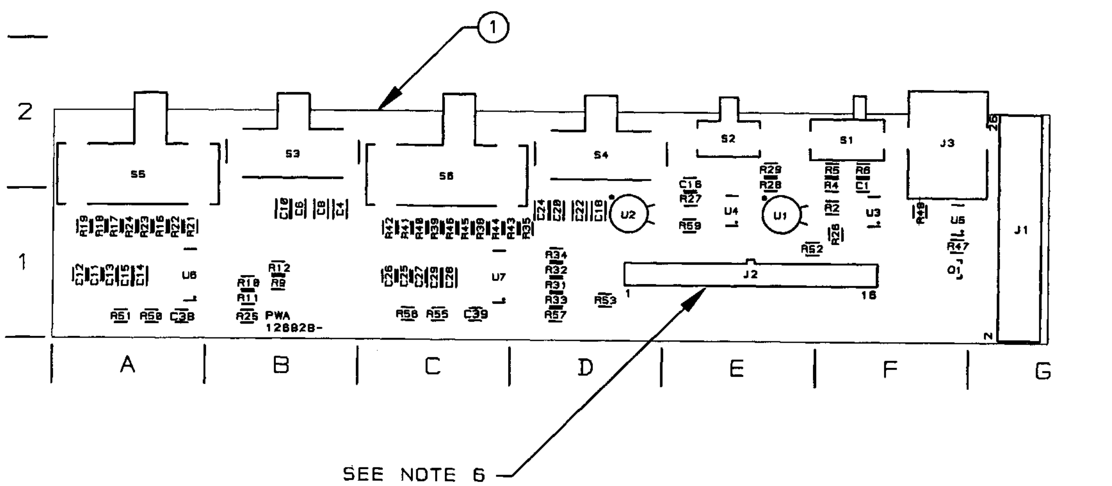
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| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126828-7 | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 5 OF 8 |

# COMPONENT MAP
## TOP SIDE



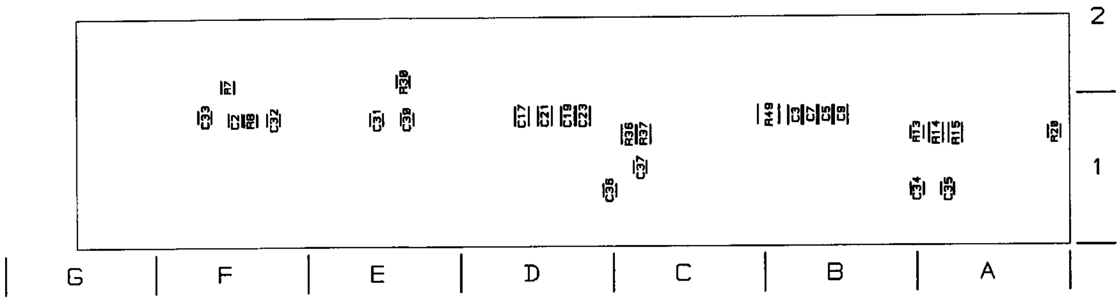

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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 126828-7 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 6 OF 8 | |

# COMPONENT MAP
## BOTTOM SIDE




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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 126828-7 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 7 OF 8 | |

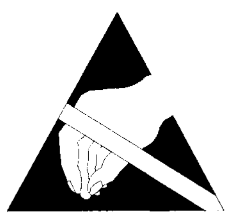
REVISION HISTORY

| E.C.N. | REV | DESCRIPTION | DATE | APPROVED DWN | CHK | CM | PE |
|---|---|---|---|---|---|---|---|
| 00N0962 | A | RELEASE FOR PRODUCTION | 11-16-00 | JAW | KB3 | MMG | JK |
| | | | | | | | |

UNLESS OTHERWISE SPECIFIED, THIS PRINTED WIRING ASSEMBLY SHALL MEET THE SPECIFICATION DESCRIBED IN IPC-A-610_ CLASS 2 STANDARDS.

NOTES:

1. PRINTED WIRING BOARD PART NUMBER 126827-14.
2. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
3. POSITION COMPONENTS AS SHOWN ON COMPONENT MAPS.
4. THE PRINTED WIRING ASSEMBLY PART NUMBER FOR THIS ASSEMBLY SHALL BE MARKED ON THE PRINTED WIRING BOARD AND SHALL BE PERMANENT.
5. MAP LOCATIONS DENOTED BY AN ASTERISK (*), INDICATE COMPONENTS MOUNTED ON THE BOTTOM SIDE OF THE PRINTED WIRING BOARD.



CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN



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| DISTRIBUTION | DWN | JAW | 11-16-00 |
|---|---|---|---|
| K | CHK | KB3 | 11-17-00 |
| FILENAME 126828-12_A_01.PCB | CM | MMG | 11/21/00 |
| | PE | JK | 11/17/00 |
| TOLERANCE UNLESS OTHERWISE SPECIFIED .00 = ±.02" .000 = ±.010" DRILLS = ±.003" | | | |
| DO NOT SCALE DRAWING | | | |

crown INTERNATIONAL, INC.
1718 W. MISHAWAKA RD.
ELKHART IN. 46517
PHONE(219)294-8000
WWW.CROWNINTL.COM

TITLE: PWA, CE4000 BFG

| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126828-12 | A |

SCALE NONE | PROJ NO. MD425D0 | SHEET 1 OF 8

PARTS LIST

| C.P.N. | DESCRIPTION | QTY | REFERENCE DESIGNATION |
|---|---|---|---|
| A11368-10R01 | 10.0 OHM 0.10W 1% 0805 T/R | 2 | R131,R231 |
| A11368-10R03 | 10 OHM 0.25W 1% 1210 T/R | 1 | R3 |
| A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | 9 | R1,R2,R4,R104,R105,R108, |
| | | | R204,R205,R208 |
| A11368-11321 | 11.3KOHM .1W 1% CHIP 0805 | 4 | R102,R115,R202,R215 |
| A11368-14331 | 143K OHM .1W 1% 0805 T/R | 2 | R109,R209 |
| A11368-15011 | 1.5K 1/10W 1% SMD 0805 T/R | 1 | R5 |
| A11368-15021 | 15.0K, 0.10W 1% MF 0805 | 2 | R114,R214 |
| A11368-15831 | 158KOHM .1W 1% 0805 T/R | 2 | R120,R220 |
| A11368-19631 | 196K OHM .1W 1% 0805 T/R | 2 | R119,R219 |
| A11368-20011 | 2.0K, 0.10W 1% MF 0805 | 2 | R100,R200 |
| A11368-22621 | 22.6K OHM .1W 1% 0805 T/R | 2 | R112,R212 |
| A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | 8 | R121,R124,R125,R127,R221, |
| | | | R224,R225,R227 |
| A11368-26111 | 2.61K 0.1W 1% 0805 T/R | 2 | R101,R201 |
| A11368-26131 | 261K OHM .1W 1% 0805 T/R | 2 | R118,R218 |
| A11368-28722 | RES 28.7K 1% SMD 1206 | 2 | R111,R211 |
| A11368-30101 | 301 OHM .1W 1% 0805 T/R | 2 | R106,R206 |
| A11368-38322 | RES 38.3K 1% SMD 1206 | 2 | R110,R210 |
| A11368-56221 | 56.2K OHM .1W 1% 0805 T/R | 2 | R113,R213 |
| A11368-88711 | 8.87KOHM .1W 1% CHIP 0805 | 4 | R103,R116,R203,R216 |
| A11368-97631 | 976K OHM .1W 1% 0805 T/R | 2 | R117,R217 |
| A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | 2 | C118,C218 |
| A11369-330J2 | 33 PF 50V 5% NPO MLC 0805 | 3 | C1,C101,C201 |
| A11371-0R01 | 0 OHM 0.1W CHIP 0805 | 4 | R122,R128,R222,R228 |
| A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | 8 | C2,C3,C4,C5,C6,C7,C10,C11 |
| C 7325-1 | 2POLE 2POS PC SLIDE SWITCH | 1 | S2 |
| | | | |
| C 8262-5 | MC33078D LOW NOISE DUAL OP AMP | 2 | U101,U201 |
| C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | 2 | U102,U202 |
| C 9049-5 | 100PF 100V CERAMIC CHIP CAP | 2 | C100,C200 |
| 101993-1 | JACK, 6P4 COND MODULAR R/A | 1 | J3 |
| 102472-3 | CONN, 12POS .1CTR ASSY SGL ROW | 1 | J2 |
| 102486-1 | OPTO BJT NPN SOIC-B CTR=100% | 1 | U1 |
| 125798-1 | TRANSISTOR,MMBT3906LTI PNP SMT | 1 | Q1 |
| 126827-14 | PWB, CE4000 BFG | 1 | 1 |
| 127386-1 | SWITCH, 4P3T SLIDE R/A PCB MNT | 2 | S101,S201 |
| 127387-1 | SWITCH, 4P4T SLIDE R/A PCB MNT | 2 | S100,S200 |
| 127412-1 | SWITCH, DP3T SLIDE R/A PCB MNT | 1 | S1 |
| 128113-1 | CAP, 0.1UF 16V FILM 1210 SMD | 10 | C102,C103,C104,C105,C110, |
| | | | C202,C203,C204,C205,C210 |
| 128182-4 | CABLE, 26POS 3M BFG MAIN | 1 | J1 |
| 130963-1 | CAP, 4.7AF 20% 16V NP ELEC SMT | 2 | C114,C214 |
| 130964-1 | CAP, 0.082UF 5% 16V FILM 1210 | 4 | C106,C111,C206,C211 |
| 131399-1 | CAP, .047UF 16V 5% FILM SMT | 4 | C108,C113,C208,C213 |
| 131547-1 | OPTO,ON<500 OHM OFF>50MEG10SEC | 2 | U100A,U200A |
| 131576-1 | CAP, .027UF 16V 5% FILM SMT | 8 | C107,C112,C116,C117,C207, |
| | | | C212,C216,C217 |
| | | | |
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| SIZE | DWG NO. | REV |
|---|---|---|
| A | 126828-12 | A |

| SCALE | PROJ NO. | SHEET |
|---|---|---|
| NONE | MD425D0 | 2 OF 8 |

PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| C1 | A11369-330J2 | 33 PF 50V 5% NPO MLC 0805 | F 1* |
| C2 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | E 1* |
| C3 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | E 2* |
| C4 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | F 1 |
| C5 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | F 1* |
| C6 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | A 1* |
| C7 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | A 1* |
| C10 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | C 1* |
| C11 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | C 1* |
| C100 | C 9049-5 | 100PF 100V CERAMIC CHIP CAP | F 1* |
| C101 | A11369-330J2 | 33 PF 50V 5% NPO MLC 0805 | B 1* |
| C102 | 128113-1 | CAP, 0.1UF 16V FILM 1210 SMD | A 1 |
| C103 | 128113-1 | CAP, 0.1UF 16V FILM 1210 SMD | A 1 |
| C104 | 128113-1 | CAP, 0.1UF 16V FILM 1210 SMD | A 1 |
| C105 | 128113-1 | CAP, 0.1UF 16V FILM 1210 SMD | C 1 |
| C106 | 130964-1 | CAP, 0.082UF 5% 16V FILM 1210 SMD | C 1 |
| C107 | 131576-1 | CAP, .027UF 16V 5% FILM SMT | B 1 |
| C108 | 131399-1 | CAP, .047UF 16V 5% FILM SMT | B 1 |
| C109 | | OPEN | A 1* |
| C110 | 128113-1 | CAP, 0.1UF 16V FILM 1210 SMD | B 1 |
| C111 | 130964-1 | CAP, 0.082UF 5% 16V FILM 1210 SMD | B 1 |
| C112 | 131576-1 | CAP, .027UF 16V 5% FILM SMT | B 1 |
| C113 | 131399-1 | CAP, .047UF 16V 5% FILM SMT | B 1 |
| C114 | 130963-1 | CAP, 4.7µF 20% 16V NP ELEC SMT TR | D 1 |
| C115 | | OPEN | A 1 |
| C116 | 131576-1 | CAP, .027UF 16V 5% FILM SMT | B 1 |
| C117 | 131576-1 | CAP, .027UF 16V 5% FILM SMT | B 1 |
| C118 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | E 1* |
| C200 | C 9049-5 | 100PF 100V CERAMIC CHIP CAP | E 1* |
| C201 | A11369-330J2 | 33 PF 50V 5% NPO MLC 0805 | C 1* |
| C202 | 128113-1 | CAP, 0.1UF 16V FILM 1210 SMD | C 1 |
| C203 | 128113-1 | CAP, 0.1UF 16V FILM 1210 SMD | C 1 |
| C204 | 128113-1 | CAP, 0.1UF 16V FILM 1210 SMD | C 1 |
| C205 | 128113-1 | CAP, 0.1UF 16V FILM 1210 SMD | D 1 |
| C206 | 130964-1 | CAP, 0.082UF 5% 16V FILM 1210 SMD | D 1 |
| C207 | 131576-1 | CAP, .027UF 16V 5% FILM SMT | D 1 |
| C208 | 131399-1 | CAP, .047UF 16V 5% FILM SMT | D 1 |
| C209 | | OPEN | C 1* |
| C210 | 128113-1 | CAP, 0.1UF 16V FILM 1210 SMD | D 1 |
| C211 | 130964-1 | CAP, 0.082UF 5% 16V FILM 1210 SMD | D 1 |
| C212 | 131576-1 | CAP, .027UF 16V 5% FILM SMT | D 1 |
| C213 | 131399-1 | CAP, .047UF 16V 5% FILM SMT | D 1 |
| C214 | 130963-1 | CAP, 4.7µF 20% 16V NP ELEC SMT TR | D 1 |
| C215 | | OPEN | C 1* |
| C216 | 131576-1 | CAP, .027UF 16V 5% FILM SMT | D 1 |
| C217 | 131576-1 | CAP, .027UF 16V 5% FILM SMT | D 1 |
| C218 | A11369-102J2 | .001UF 50V 5% NPO MLC 0805 T/R | E 1 |
| | | | |
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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 126828-12 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 3 OF 8 | |

| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| J1 | 128182-4 | CABLE, 26POS 3M BFG MAIN | G 1 |
| J2 | 102472-3 | CONN, 12POS .1CTR ASSY SGL ROW | E 1 |
| J3 | 101993-1 | JACK, 6P4 COND MODULAR R/A | |
| Q1 | 125798-1 | TRANSISTOR,MMBT3906LTI PNP SMT | F 1 |
| R1 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | F 2 |
| R2 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | F 1* |
| R3 | A11368-10R03 | 10 OHM 0.25W 1% 1210 T/R | G 1 |
| R4 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | F 1 |
| R5 | A11368-15011 | 1.5K 1/10W 1% SMD 0805 T/R | F 1 |
| R100 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | E 1 |
| R101 | A11368-26111 | 2.61K 0.1W 1% 0805 T/R | F 2 |
| R102 | A11368-11321 | 11.3KOHM .1W 1% CHIP 0805 | F 2 |
| R103 | A11368-88711 | 8.87KOHM .1W 1% CHIP 0805 | F 2 |
| R104 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | F 1* |
| R105 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | F 1* |
| R106 | A11368-30101 | 301 OHM .1W 1% 0805 T/R | F 1* |
| R107 | | OPEN | A 1* |
| R108 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | B 1* |
| R109 | A11368-14331 | 143K OHM .1W 1% 0805 T/R | A 1* |
| R110 | A11368-38322 | RES 38.3K 1% SMD 1206 | A 1 |
| R111 | A11368-28722 | RES 28.7K 1% SMD 1206 | A 1* |
| R112 | A11368-22621 | 22.6K OHM .1W 1% 0805 T/R | A 1* |
| R113 | A11368-56221 | 56.2K OHM .1W 1% 0805 T/R | A 1 |
| R114 | A11368-15021 | 15.0K, 0.10W 1% MF 0805 | A 1 |
| R115 | A11368-11321 | 11.3KOHM .1W 1% CHIP 0805 | A 1* |
| R116 | A11368-88711 | 8.87KOHM .1W 1% CHIP 0805 | A 1* |
| R117 | A11368-97631 | 976K OHM .1W 1% 0805 T/R | B 1 |
| R118 | A11368-26131 | 261K OHM .1W 1% 0805 T/R | A 1 |
| R119 | A11368-19631 | 196K OHM .1W 1% 0805 T/R | A 1 |
| R120 | A11368-15831 | 158KOHM .1W 1% 0805 T/R | A 1 |
| R121 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | A 1* |
| R122 | A11371-0R01 | 0 OHM 0.1W CHIP 0805 | A 1* |
| R123 | | OPEN | A 1* |
| R124 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | B 1* |
| R125 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | B 1* |
| R126 | | OPEN | A 1* |
| R127 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | B 1* |
| R128 | A11371-0R01 | 0 OHM 0.1W CHIP 0805 | A 1* |
| R129 | | OPEN | A 1* |
| R130 | | OPEN | B 1* |
| R131 | A11368-10R01 | 10.0 OHM 0.10W 1% 0805 T/R | D 1* |
| R200 | A11368-20011 | 2.0K, 0.10W 1% MF 0805 | E 1* |
| R201 | A11368-26111 | 2.61K 0.1W 1% 0805 T/R | E 2 |
| R202 | A11368-11321 | 11.3KOHM .1W 1% CHIP 0805 | E 2 |
| R203 | A11368-88711 | 8.87KOHM .1W 1% CHIP 0805 | E 1* |
| | | | |
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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 126828-12 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 4 OF 8 | |

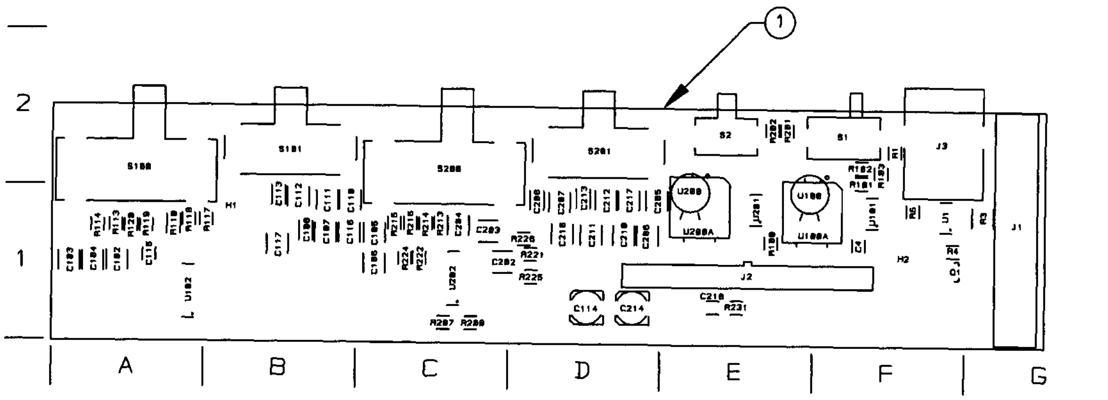
| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| R204 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | E 1* |
| R205 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | C 1* |
| R206 | A11368-30101 | 301 OHM .1W 1% 0805 T/R | E 1* |
| R207 | | OPEN | C 1 |
| R208 | A11368-10021 | 10K 1/10W 1% SMD 0805 T/R | C 1 |
| R209 | A11368-14331 | 143K OHM .1W 1% 0805 T/R | D 1* |
| R210 | A11368-38322 | RES 38.3K 1% SMD 1206 | C 1* |
| R211 | A11368-28722 | RES 28.7K 1% SMD 1206 | C 1* |
| R212 | A11368-22621 | 22.6K OHM .1W 1% 0805 T/R | C 1* |
| R213 | A11368-56221 | 56.2K OHM .1W 1% 0805 T/R | C 1 |
| R214 | A11368-15021 | 15.0K, 0.10W 1% MF 0805 | C 1 |
| R215 | A11368-11321 | 11.3KOHM .1W 1% CHIP 0805 | C 1 |
| R216 | A11368-88711 | 8.87KOHM .1W 1% CHIP 0805 | C 1 |
| R217 | A11368-97631 | 976K OHM .1W 1% 0805 T/R | D 1* |
| R218 | A11368-26131 | 261K OHM .1W 1% 0805 T/R | C 1* |
| R219 | A11368-19631 | 196K OHM .1W 1% 0805 T/R | C 1* |
| R220 | A11368-15831 | 158KOHM .1W 1% 0805 T/R | C 1* |
| R221 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | D 1 |
| R222 | A11371-0R01 | 0 OHM 0.1W CHIP 0805 | C 1 |
| R223 | | OPEN | C 1* |
| R224 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | C 1 |
| R225 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | D 1 |
| R226 | | OPEN | D 1 |
| R227 | A11368-24921 | 24.9K 1/10W 1% SMD 0805 T/R | C 1* |
| R228 | A11371-0R01 | 0 OHM 0.1W CHIP 0805 | C 1* |
| R229 | | OPEN | C 1* |
| R230 | | OPEN | C 1* |
| R231 | A11368-10R01 | 10.0 OHM 0.10W 1% 0805 T/R | E 1 |
| S1 | 127412-1 | SWITCH, DP3T SLIDE R/A PCB MNT | F 2 |
| S2 | C 7325-1 | 2POLE 2POS PC SLIDE SWITCH | E 2 |
| S100 | 127387-1 | SWITCH, 4P4T SLIDE R/A PCB MNT | A 2 |
| S101 | 127386-1 | SWITCH, 4P3T SLIDE R/A PCB MNT | B 2 |
| S200 | 127387-1 | SWITCH, 4P4T SLIDE R/A PCB MNT | C 2 |
| S201 | 127386-1 | SWITCH, 4P3T SLIDE R/A PCB MNT | D 2 |
| TP2 | TESTPOINT | TESTPOINT | B 1 |
| TP3 | TESTPOINT | TESTPOINT | B 1 |
| TP4 | TESTPOINT | TESTPOINT | F 2 |
| TP5 | TESTPOINT | TESTPOINT | C 1 |
| U1 | 102486-1 | OPTO BJT NPN SOIC-8 CTR=100% | F 1 |
| U100 | | OPEN | E 1 |
| U101 | C 8262-5 | MC33078D LOW NOISE DUAL OP AMP | F 1 |
| U102 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | A 1 |
| U200 | | OPEN | E 1 |
| U201 | C 8262-5 | MC33078D LOW NOISE DUAL OP AMP | E 1 |
| U202 | C 9012-3 | OP AMP, QUAD LO NOISE MC33079D | C 1 |
| U100A | 131547-1 | OPTO,ON<500 OHM OFF>50MEG10SEC | E 1 |
| U200A | 131547-1 | OPTO,ON<500 OHM OFF>50MEG10SEC | E 1 |
| 1 | 126827-14 | PWB, CE4000 BFG | |
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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 126828-12 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 5 OF 8 | |

COMPONENT MAP
TOP SIDE



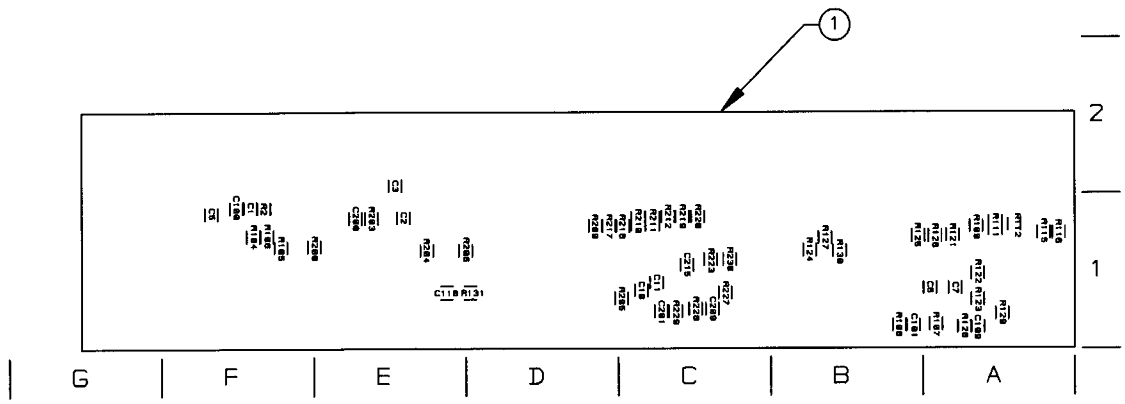
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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 126828-12 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 6 OF 8 | |

# COMPONENT MAP

## BOTTOM SIDE




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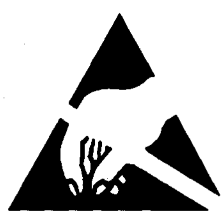
| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 126828-12 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 7 OF 8 | |

| E.C.N. | ZONE | REV. | DESCRIPTION | DATE | BY | APPROVALS CHK | CM | EE | PE |
|---|---|---|---|---|---|---|---|---|---|
| T991917 | | A | RELEASE FOR PRODUCTION | 11/01/99 | DK | JCM | JL | N/A | [illegible] |

UNLESS OTHERWISE SPECIFIED, THE FINISHED PWA SHALL MEET:
IPC-A-610_ CLASS 2

NOTES:

1. PWB PART NUMBER 127004-1.
2. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
3. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
4. SWAGE FIT HW1 & HW2 INTO PCB.
5. HAND SOLDER C510 (C 6806-1), AND C610 (C 6806-1) ACROSS BACK OF INPUT MODULE AS SHOWN, USE 1/2" KAPTON TAPE (S 6285-1) AS INSULATION BETWEEN EACH CAPACITOR AND THE BOARD.



CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

CROWN INTERNATIONAL INC.

1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

| | | | | | |
|---|---|---|---|---|---|
| PRINTS | PWA, INPUT CE | | | | TOL. UNLESS SPECIFIED X.XX = ± 0.020 X.XXX = ± 0.010 DRILLS = ± 0.003 |
| K | | | | | |
| DRAWN | DK | 11/01/99 | APPROVED BY: | | DO NOT SCALE PRINT |
| CHECKED | JCM | 11-1-99 | ME | N/A | SUPERSEDES |
| SCALE | NONE | | EE | N/A | E.C.N. |
| PROJ # | MD390D0 | | PE | [illegible] 11/2/99 | DWG. NO. 126883-4 SHEET 1 OF 5 REV (A) |
| NEXT ASSEMBLY | | | | | |

| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| 1 | 127004-1 | PWB, CE INPUT | |
| C500 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | B 2 |
| C501 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | B 2 |
| C502 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | B 2 |
| C503 | 102467-1 | 22UF 25V 20% RADIAL T/R | B 1 |
| C504 | 102438-221K2 | 220PF 200V 10% NPO 0805 | B 2 |
| C505 | A11427-104K2 | 0.1UF 50V 1% CHIP 0805 | B 2 |
| C506 | A11427-104K2 | 0.1UF 50V 1% CHIP 0805 | B 2 |
| C509 | | OPEN | |
| C510 | C 6806-1 | 0.01 MF 100V AXIAL CER T/R | C 1 |
| C600 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | B 2 |
| C601 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | A 2 |
| C602 | A11369-120K2 | 12PF 50V 10% NPO 0805 T/R | B 2 |
| C603 | 102467-1 | 22UF 25V 20% RADIAL T/R | B 1 |
| C604 | 102438-221K2 | 220PF 200V 10% NPO 0805 | B 2 |
| C605 | A11427-104K2 | 0.1UF 50V 1% CHIP 0805 | A 2 |
| C608 | A11371-1501 | 15 OHM 0.10W 5% CHIP | A 1 |
| C609 | | OPEN | |
| C610 | C 6806-1 | 0.01 MF 100V AXIAL CER T/R | A 1 |
| HW1 | 102579-1 | STAND, BROACHED 6-32 X .75 | A 3 |
| HW2 | 102579-1 | STAND, BROACHED 6-32 X .75 | C 3 |
| HW3 | 103435-70608 | SCREW, 6-32X.5 TORX PNHD SEM | A 3 |
| HW4 | 103435-70608 | SCREW, 6-32X.5 TORX PNHD SEM | C 3 |
| J500 | 126929-1 | CONN., 1/4" XLR, PCB VERT. | B 2 |
| J502 | 102471-2 | HDR, 12POS. 2.5MM RT ANG KEYED | A 1 |
| J600 | 126929-1 | CONN., 1/4" XLR, PCB VERT. | A 2 |
| R500 | A11368-10021 | 10. KOHM .1W 1% CHIP 0805 | C 2 |
| R501 | A11368-10021 | 10. KOHM .1W 1% CHIP 0805 | B 2 |
| R502 | A11368-10021 | 10. KOHM .1W 1% CHIP 0805 | B 2 |
| R503 | A11368-10021 | 10. KOHM .1W 1% CHIP 0805 | B 2 |
| R504 | A11368-20011 | 2.0 KOHM .1W 1% CHIP 0805 | B 2 |
| R506 | A11368-20011 | 2.0 KOHM .1W 1% CHIP 0805 | B 2 |
| R508 | | OPEN | |
| R600 | A11368-10021 | 10. KOHM .1W 1% CHIP 0805 | A 2 |
| R601 | A11368-10021 | 10. KOHM .1W 1% CHIP 0805 | A 2 |
| R602 | A11368-10021 | 10. KOHM .1W 1% CHIP 0805 | B 2 |
| R603 | A11368-10021 | 10. KOHM .1W 1% CHIP 0805 | B 2 |
| R604 | A11368-20011 | 2.0 KOHM .1W 1% CHIP 0805 | A 2 |
| R605 | A11371-1501 | 15 OHM 0.10W 5% CHIP | C 1 |
| R606 | A11368-20011 | 2.0 KOHM .1W 1% CHIP 0805 | A 2 |
| R607 | A11371-8205 | 82 OHM 1W 5% SMD 2512 | A 2 |
| R608 | | OPEN | |
| R609 | A11371-1501 | 15 OHM 0.10W 5% CHIP | C 1 |
| TB1 | 102475-1 | BLOCK, 5POS., TERMINAL | A 3 |
| U500 | C 9012-3 | OP AMP, QUAD MC33079D | B 2 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

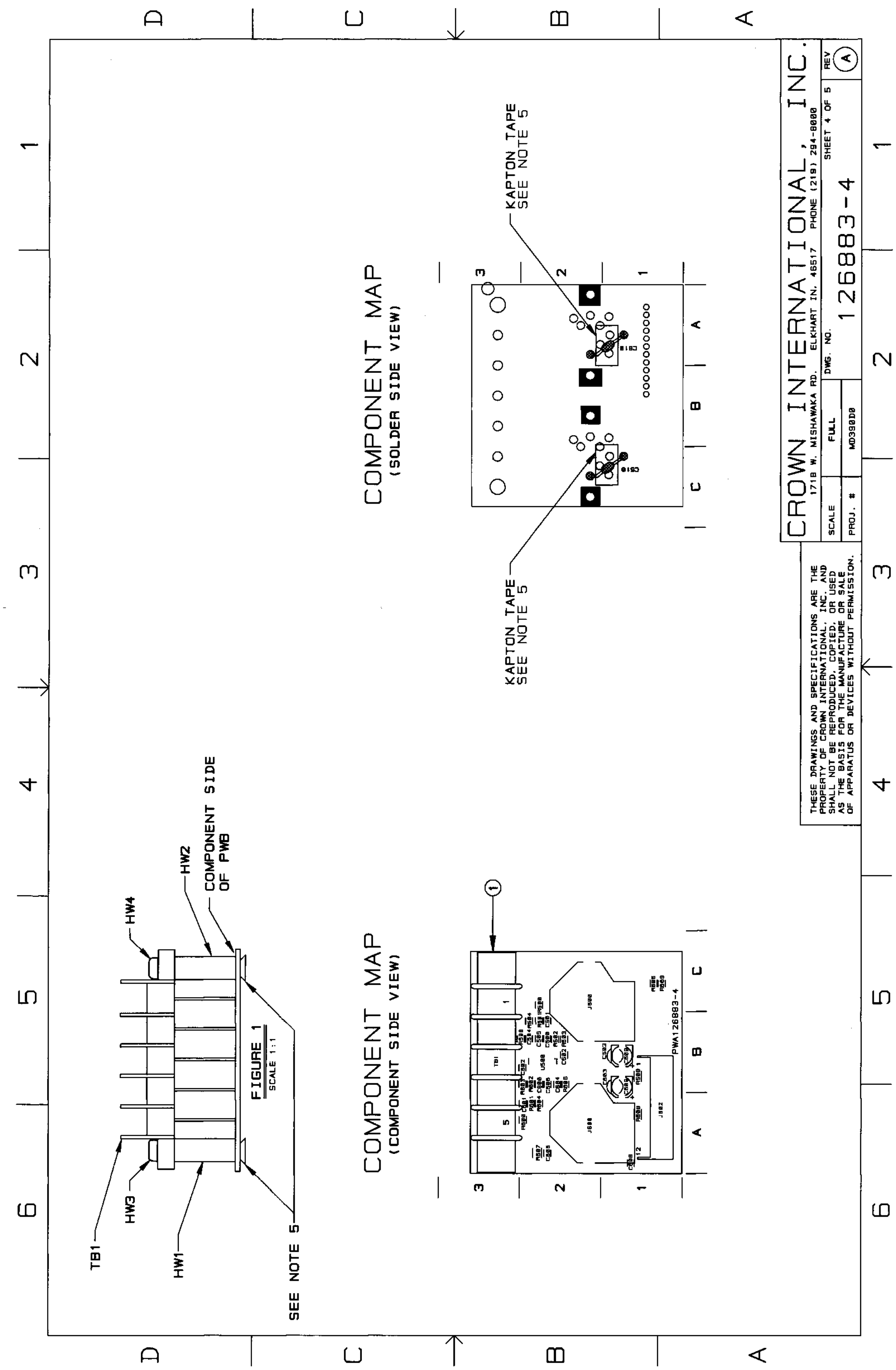


CROWN INTERNATIONAL INC.

1718 WEST MISHAWAKA ROAD ELKHART, INDIANA 46517 PHONE (219) 294-8000

| DRAWN | DK | 11/01/99 | DWG. NO. 126883-4 | SHEET 3 OF 5 | REV A |
|---|---|---|---|---|---|
| PROJ. | MD390D0 | | | | |


COMPONENT MAP
(SOLDER SIDE VIEW)
KAPTON TAPE
SEE NOTE 5
KAPTON TAPE
SEE NOTE 5
COMPONENT MAP
(COMPONENT SIDE VIEW)
FIGURE 1
SCALE 1:1
HW4
HW2
COMPONENT SIDE
OF PWB
TB1
HW3
HW1
SEE NOTE 5
PWA126883-4
CROWN INTERNATIONAL, INC.
1718 W. MISHAWAKA RD. ELKHART IN. 46517 PHONE (219) 294-8000
SCALE FULL
DWG. NO. 126883-4
SHEET 4 OF 5
REV A
PROJ. # WD3980D0
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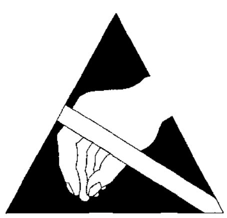
REVISION HISTORY

| E.C.N. | REV | DESCRIPTION | DATE | APPROVED DWN | CHK | CM | PE |
|---|---|---|---|---|---|---|---|
| 00N0523 | A | RELEASE FOR PRODUCTION | 05-30-00 | JG | JLM | CB | (signature) |

UNLESS OTHERWISE SPECIFIED, THIS PRINTED WIRING ASSEMBLY SHALL MEET THE SPECIFICATION DESCRIBED IN IPC-A-610_ CLASS 2 STANDARDS.

NOTES:

1. PRINTED WIRING BOARD PART NUMBER 127026-3.
2. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
3. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
4. THE PRINTED WIRING ASSEMBLY PART NUMBER FOR THIS ASSEMBLY SHALL BE MARKED ON THE PRINTED WIRING BOARD AND SHALL BE PERMANENT.
5. APPPLY HEATSINK COMPOUND (CPN S2162-6) BETWEEN U2 AND HEATSINK (U2X).
6. SCREW(HW1) IS TO BE TORQUED TO 8-10 IN-LBS.
7. THIS PWA MUST MEET ALL SPECIFICATIONS AS LISTED IN 131062 SPECS, CE4000 FLYBACK PWA.



CAUTION

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| | | | |
|---|---|---|---|
| DISTRIBUTION | DWN | JG | 05-30-00 |
| K | CHK | JLM | 5-31-00 |
| FILENAME 127027-6_A_01.PCB | CM | CB | 6/1/00 |
| | PE | (signature) | 5-31-00 |
| TOLERANCE UNLESS OTHERWISE SPECIFIED .00 = ±.02" .000 = ±.010" DRILLS = ±.003" | | | |
| DO NOT SCALE DRAWING | | | |

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ELKHART IN, 46517
PHONE(219)294-8000
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TITLE

PWA, CE4000 FLYBACK

| SIZE | DWG NO. | REV |
|---|---|---|
| A | 127027-6 | A |

SCALE NONE | PROJ NO. MD425D0 | SHEET 1 OF 6

PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| 1 | 127026-3 | PWB, CE4000 FLYBACK | |
| C1 | A11427-103K2 | .01 UF 50V 10% X7R MLC 0805 | B 3 |
| C2 | 125855-1 | 47UF 50V 2.5MM L/S VERT CAP | B 3 |
| C3 | 126631-1 | CAP, 220UF 25V RAD ELECT | B 3 |
| C4 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | B 3 |
| C5 | A10432-151KF | 150PF 630VDC 10% PROP CAP T/A | A 2 |
| C6 | A11369-152J2 | 1500PF 50V 5% NPO MLC 0805 T/R | A 3 |
| C7 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | A 3 |
| C8 | A11427-104K2 | .1UF 50V CHIP CAP 10% 0805 X7R | C 3 |
| C9 | 127032-1 | CAP, 56UF 450V HIGH RIPPLE | B 1 |
| C10 | 126632-1 | CAP, 2200PF CER DISK Y RATED | C 2 |
| C11 | 126630-1 | CAP, 470UF 25V RAD ELECT | D 3 |
| C12 | 126630-1 | CAP, 470UF 25V RAD ELECT | D 2 |
| C13 | 126630-1 | CAP, 470UF 25V RAD ELECT | E 2 |
| C14 | 126631-1 | CAP, 220UF 25V RAD ELECT | E 2 |
| C15 | 126631-1 | CAP, 220UF 25V RAD ELECT | E 1 |
| C16 | 126631-1 | CAP, 220UF 25V RAD ELECT | E 2 |
| C17 | 126631-1 | CAP, 220UF 25V RAD ELECT | C 2 |
| C18 | 125855-1 | 47UF 50V 2.5MM L/S VERT CAP | D 2 |
| C19 | 126631-1 | CAP, 220UF 25V RAD ELECT | C 1 |
| C20 | 125855-1 | 47UF 50V 2.5MM L/S VERT CAP | D 1 |
| C21 | 126631-1 | CAP, 220UF 25V RAD ELECT | C 1 |
| C22 | 125855-1 | 47UF 50V 2.5MM L/S VERT CAP | C 1 |
| C23 | A11427-473K5 | .047UF 50V CHIP CAPACITOR X7R | B 3 |
| C24 | 125855-1 | 47UF 50V 2.5MM L/S VERT CAP | B 3 |
| D1 | C 9283-0 | DIODE, MMBD4148/914 SOT-23 SMT | B 3 |
| D2 | 126620-1 | DIODE, 600V 1A SMB ULTRAFAST | A 1 |
| D3 | 126620-1 | DIODE, 600V 1A SMB ULTRAFAST | B 1 |
| D4 | 126621-1 | DIODE, 180V 3W SMB ZENER | B 1 |
| D5 | 126618-1 | DIODE, 200V 2A ULTRAFAST SMB | B 2 |
| D6 | 127361-1 | DIODE, FAST RCVY 200V 4A DPAK | D 3 |
| D7 | 126619-1 | DIODE, 200V 4A SMC ULTRAFAST | C 2 |
| D8 | 125255-1 | DIODE, ULTRAFAST 200V 1A SMA | C 2 |
| D9 | 125255-1 | DIODE, ULTRAFAST 200V 1A SMA | C 1 |
| D10 | 126618-1 | DIODE, 200V 2A ULTRAFAST SMB | B 1 |
| HW1 | A10086-10406 | 4-40 X .37 RDHR A S MSCR Z | A 2 |
| HW2 | A10094-2 | #4 INT STAR LOCKWASHER | A 2 |
| HW3 | A10102-3 | 4 X 40 HEX NUT | A 2 |
| J1 | 127028-1 | CONN, 7 PIN SHROUDED HDR | A 1 |
| J2 | 127029-1 | CONN, 15 PIN SHROUDED HDR | C 1 |
| L1 | 126648-1 | CHOKE, 1UH 920MA AXIAL | D 2 |
| L2 | 126496-1 | CHOKE, 10UH 500MA AXIAL | D 3 |
| L3 | 126496-1 | CHOKE, 10UH 500MA AXIAL | D 1 |
| L4 | 126496-1 | CHOKE, 10UH 500MA AXIAL | D 2 |
| L5 | 126496-1 | CHOKE, 10UH 500MA AXIAL | D 1 |
| L6 | 126496-1 | CHOKE, 10UH 500MA AXIAL | C 1 |
| R1 | A11368-10001 | 100 OHM 1% 0805 RES T/R | A 3 |
| R2 | A11368-20R02 | 20 OHM .125W 1% 1206 T/R | A 3 |
| R3 | A11368-22111 | 2.21KOHM .1W 1% CHIP 0805 | B 3 |
| | | | |



| SIZE | DWG NO. | REV |
|---|---|---|
| A | 127027-6 | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 3 OF 6 |

PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| R5 | 100115-1 | 91.OHM 2W 5% MF T/R 1W BODY | A 1 |
| R6 | 100115-1 | 91.OHM 2W 5% MF T/R 1W BODY | A 1 |
| R7 | A11368-47511 | 4.75KOHM 0.10W 1% CHIP 0805 | A 3 |
| R8 | A11368-10001 | 100 OHM 1% 0805 RES T/R | C 2 |
| R9 | A11368-56211 | 5.62KOHM .1W 1% 0805 T/R | C 3 |
| R10 | A11368-11311 | 1.13KOHM .1W 1% 0805 T/R | C 3 |
| T1 | 126510-1 | TRANSFORMER, 35W FLYBACK | C 2 |
| U1 | 127144-1 | VOLT REG,+12V 100MA 4% T/R | B 3 |
| U2 | 125257-1 | IC, SMPS CTRL VIPER100/A | A 2 |
| U3 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | A 3 |
| U4 | 128382-1 | OPTO SFH615A-2 IEC65 COMPLIANT | C 2 |
| U5 | C 9929-8 | TL431ACLP ADJ PREC RFNC T/A | C 3 |
| U2X | 131016-1 | HEATSINK, TO-220 PC MOUNT | A 2 |

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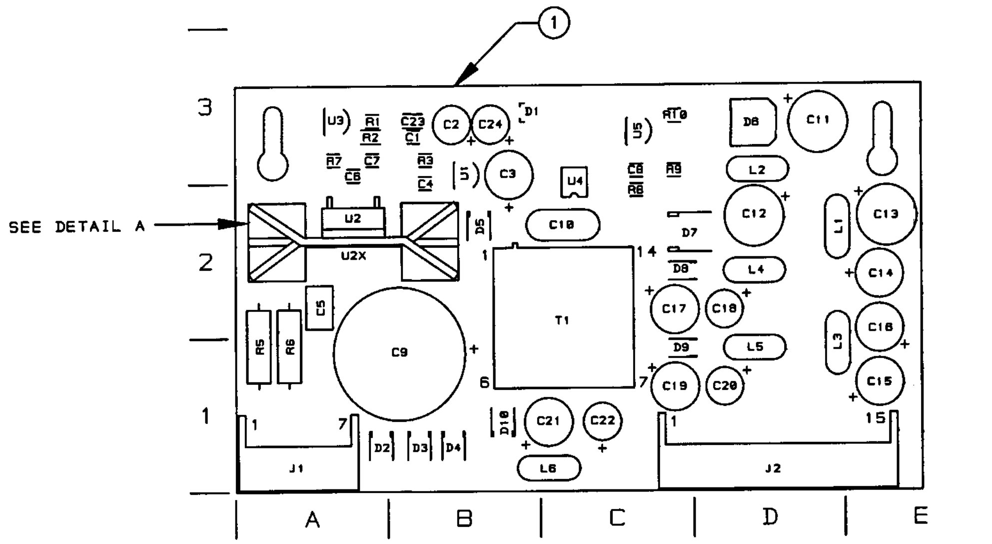
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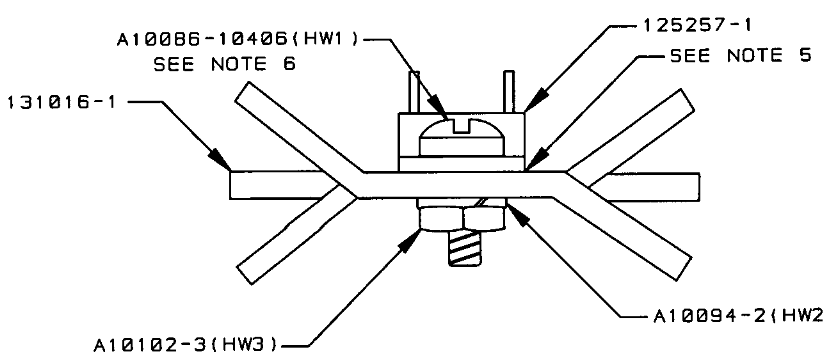


| SIZE | DWG NO. | REV |
|---|---|---|
| A | 127027-6 | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 4 OF 6 |

## COMPONENT MAP

TOP SIDE




DETAIL A

SCALE: 2:1

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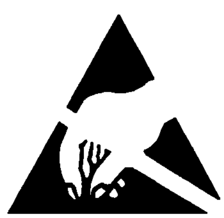
| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 127027-6 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 5 OF 6 | |

| E.C.N. | ZONE | REV. | DESCRIPTION | DATE | BY | APPROVALS CHK | CM | EE | PE |
|---|---|---|---|---|---|---|---|---|---|
| 00N0028 | | A | RELEASE TO PRODUCTION | 01/14/00 | JG | JLM | DSV | N/A | KJ |
| | | | | | | | | | |

UNLESS OTHERWISE SPECIFIED, THIS PRINTED WIRING ASSEMBLY SHALL MEET THE SPECIFICATION DESCRIBED IN IPC-A-610_ CLASS 2 STANDARDS.

NOTES:

1. PRINTED WIRING BOARD PART NUMBER 127562-3.
2. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
3. POSITION COMPONENTS AS SHOWN ON COMPONENT MAP.
4. THE PRINTED WIRING ASSEMBLY PART NUMBER FOR THIS ASSEMBLY SHALL BE MARKED ON THE PRINTED WIRING BOARD AND SHALL BE PERMANENT.
5. PART 1 OF THE COMPONENT MAP SHOWS ONLY THE PWB MOUNTED COMPONENTS. PART 2 SHOWS THE ASSEMBLY OF THE POT LOCATOR (127784-2).



CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

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| PRINTS TO | | | | | | |
|---|---|---|---|---|---|---|
| K | | PWA, CE4000 POT BOARD | | | | TOL. UNLESS SPECIFIED X.XX = ± 0.020 X.XXX = ± 0.010 DRILLS = ± 0.003 |
| | | DRAWN | JG | 01-19-00 | APPROVED BY: | DO NOT SCALE PRINT |
| | | CHECKED | JLM | 1-19-00 | ME DSV 1-19-00 | SUPERSEDES |
| | | SCALE | NONE | | EE N/A | E.C.N. |
| | | PROJ # | MD425D0 | | PE KJ 1-19-00 | C.P.N. SHEET 1 OF 5 127563-3 REV A |
| | | NEXT ASSEMBLY | | | | |

PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| HW1 | 127784-2 | LOCATOR, CE4000 POT MACHINED | A 1 |
| J1 | 126604-2 | 12 POS SINGLE ROW CABLE ASSY | B 1 |
| R1 | C10245-6 | 5KOHM LNR 31 DETENT VERT PC | A 1 |
| R2 | C10245-6 | 5KOHM LNR 31 DETENT VERT PC | C 1 |
| 1 | 127562-3 | PWB, CE4000 POT BOARD | |



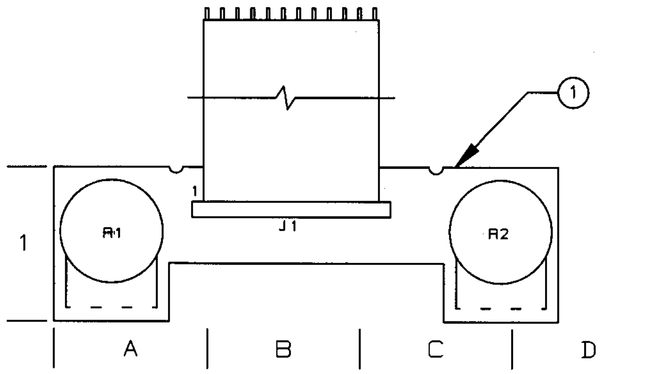
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| DRAWN | JG | 01/14/00 | DWG. NO. | SHEET 3 OF 5 | REV |
|---|---|---|---|---|---|
| PROJ. | MD425D0 | | 127563-3 | | A |

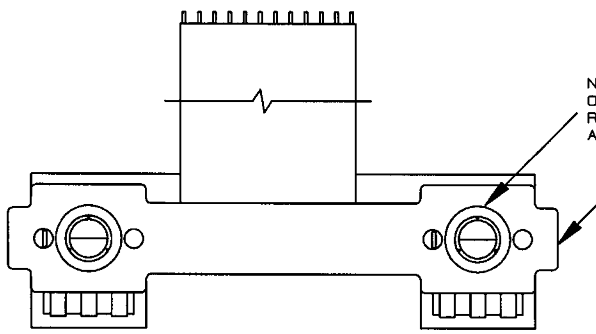
# COMPONENT MAP

## TOP SIDE

PART 1




PART 2






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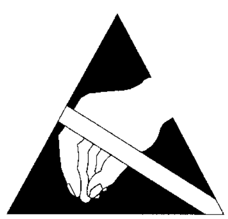
| | | | | |
|---|---|---|---|---|
| DRAWN | JG | 01/14/00 | DWG. NO. SHEET 4 OF 5 | REV |
| PROJ. | MD425D0 | | 127563-3 | A |

| REVISION HISTORY | | | | | | | |
|---|---|---|---|---|---|---|---|
| E.C.N. | REV | DESCRIPTION | DATE | APPROVED | | | |
| | | | | DWN | CHK | CM | PE |
| 00N0393 | A | RELEASE FOR PRODUCTION | 04/26/00 | JG | JAW | CB | |
| | | | | | | | |

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NOTES:

1. PRINTED WIRING BOARD PART NUMBER 127819-2
2. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
3. POSITION COMPONENTS AS SHOWN ON COMPONENT MAPS.
4. THE PRINTED WIRING ASSEMBLY PART NUMBER FOR THIS ASSEMBLY SHALL BE MARKED ON THE PRINTED WIRING BOARD AND SHALL BE PERMANENT.
5. REMOVE SOLDER OR PREVENT SOLDER FROM ACCUMULATING IN HOLES INDICATED ON COMPONENT MAP.
6. "PART 1" ON THE COMPONENT MAP SHOWS THE PLACEMENT OF THE SPEAKON CONNECTORS. "PART 2" SHOWS THE ASSEMBLY OF THE DUAL BINDING POSTS TO THE OUTPUT PANEL AND THE ASSEMBLY OF THE OUTPUT PANEL/DUAL BINDING POSTS TO THE SPEAKON CONNECTORS.
7. OUTPUT PANEL SCREWS (103175-1) ARE TO BE TORQUED TO 4-5 IN. POUNDS
8. BINDING POST NUTS ARE TO BE TORQUED TO 12-14 IN-LBS.



CAUTION

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| FILENAME 127820-3_A_01.PCB | | |

| | | |
|---|---|---|
| DWN | JG | 04/26/00 |
| CHK | JAW | 04/27/00 |
| CM | CB | 4/27/00 |
| PE | | 4-27-00 |

TOLERANCE UNLESS OTHERWISE SPECIFIED
.00 = ±.02"
.000 = ±.010"
DRILLS = ±.003"

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ELKHART IN. 46517
PHONE(219)294-8000
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TITLE
PWA, CE4K SPEAKON/BDG POST OTPT

| SIZE | DWG NO. | REV |
|---|---|---|
| A | 127820-3 | A |

SCALE NONE | PROJ NO. MD425D0 | SHEET 1 OF 6

| PARTS LIST | | | |
|---|---|---|---|
| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
| C141 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | B 3 |
| C142 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | C 2 |
| C143 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | C 2 |
| C144 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | C 2 |
| C241 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | B 3 |
| C242 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | A 3 |
| C243 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | A 2 |
| C244 | A10434-104JD | .1UF 250V 5% MTL POLY FILM T/A | A 2 |
| HW1 | 127826-2 | PNL, CE4000 STD DOM OTPT PC/PP | A 1 |
| HW2 | 103175-1 | M2.9X9.5MM FLT HD PH TFS BZ AB | A 4 |
| HW3 | 103175-1 | M2.9X9.5MM FLT HD PH TFS BZ AB | B 3 |
| HW4 | 103175-1 | M2.9X9.5MM FLT HD PH TFS BZ AB | B 4 |
| HW5 | 103175-1 | M2.9X9.5MM FLT HD PH TFS BZ AB | C 3 |
| HW6 | A10094-8 | #10 INT TOOTH LOCKWASHER ZINC | A 4 |
| HW7 | A10094-8 | #10 INT TOOTH LOCKWASHER ZINC | B 3 |
| HW8 | A10094-8 | #10 INT TOOTH LOCKWASHER ZINC | B 4 |
| HW9 | A10094-8 | #10 INT TOOTH LOCKWASHER ZINC | C 3 |
| J1 | 126985-2 | JACK, 4POLE PWB MT SPK ON M2.9 | C 3 |
| J2 | 127521-1 | BDG POST, DUAL NO-TOUCH R-B | C 2 |
| J3 | 126985-2 | JACK, 4POLE PWB MT SPK ON M2.9 | A 3 |
| J4 | 127520-1 | BDG POST, DUAL NO-TOUCH L-B | A 2 |
| PWB1 | 127819-2 | PWB, CE4000 SPKON/BNGD POST OUTPUT | |

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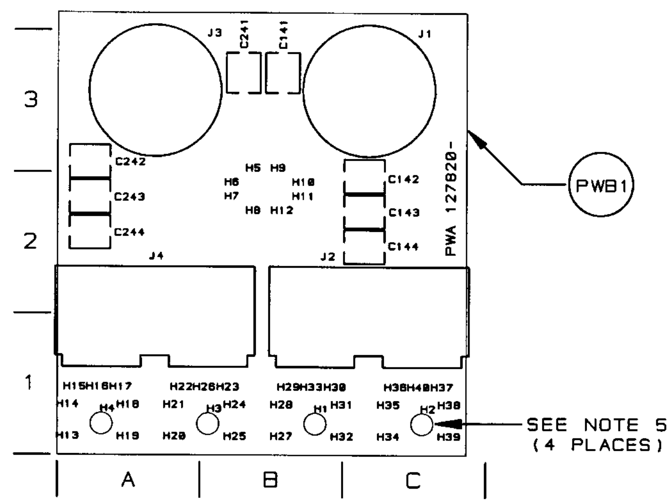


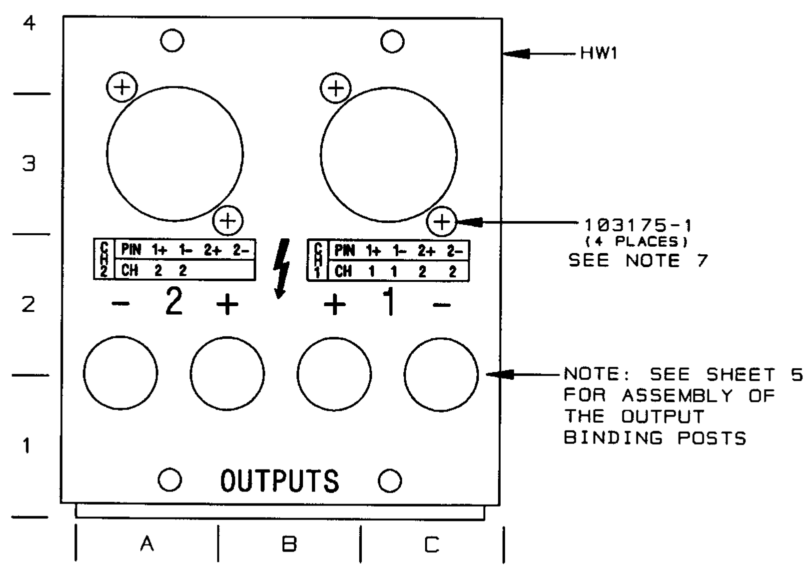
| SIZE | DWG NO. | REV |
|---|---|---|
| A | 127820-3 | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 3 OF 6 |

# COMPONENT MAP

TOP SIDE

PART 1



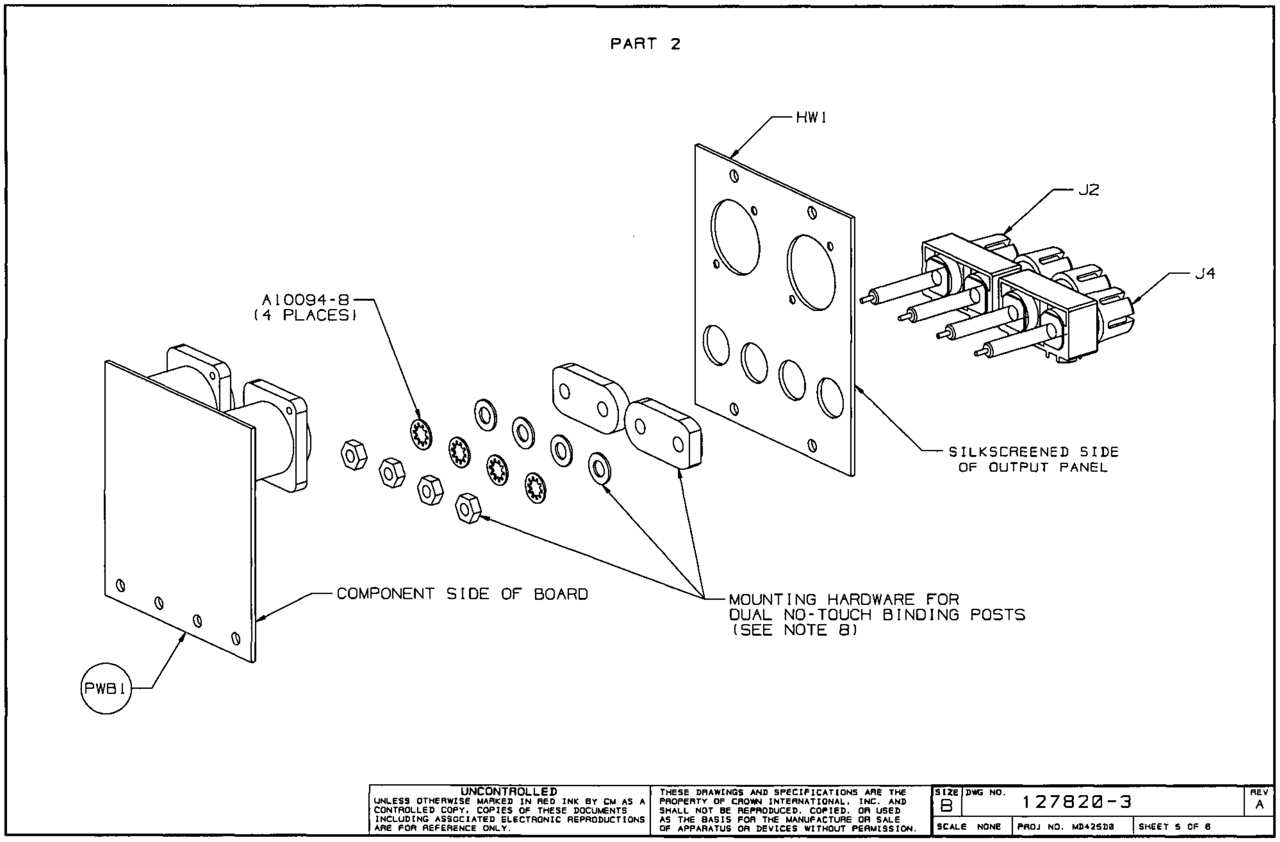




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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 127820-3 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 4 OF 6 | |

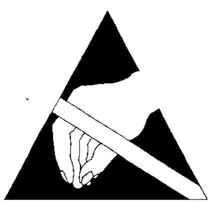

PART 2
HW1
J2
J4
A10094-8
(4 PLACES)
SILKSCREENED SIDE
OF OUTPUT PANEL
COMPONENT SIDE OF BOARD
MOUNTING HARDWARE FOR
DUAL NO-TOUCH BINDING POSTS
(SEE NOTE 8)
PWB1
UNCONTROLLED
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SIZE B
DWG NO. 127820-3
REV A
SCALE NONE
PROJ NO. MD425D8
SHEET 5 OF 6

| REVISION HISTORY | | | | | | | |
|---|---|---|---|---|---|---|---|
| E.C.N. | REV | DESCRIPTION | DATE | APPROVED DWN | CHK | CM | PE |
| 00N0527 | A | RELEASE TO PRODUCTION | 05-30-00 | JG | JAW | CB | |

UNLESS OTHERWISE SPECIFIED, THIS PRINTED WIRING ASSEMBLY SHALL MEET THE SPECIFICATION DESCRIBED IN IPC-A-610_ CLASS 2 STANDARDS.

NOTES:

1. PRINTED WIRING BOARD PART NUMBER 128242-3.
2. ALL LEADS SHALL BE TRIMMED TO 0.093" OR LESS.
3. POSITION COMPONENTS AS SHOWN ON COMPONENT MAPS.
4. THE PRINTED WIRING ASSEMBLY PART NUMBER FOR THIS ASSEMBLY SHALL BE MARKED ON THE PRINTED WIRING BOARD AND SHALL BE PERMANENT.
5. F1 (A10285-29) IS TO BE INSTALLED AFTER WAVE SOLDERING.



CAUTION

STATIC CAN DAMAGE COMPONENTS!

DO NOT HANDLE

UNLESS WRIST STRAP IS WORN

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| | | | |
|---|---|---|---|
| DISTRIBUTION | DWN | JG | 05-30-00 |
| K | CHK | JAW | 05/31/00 |
| FILENAME 128243-6_A_01.PCB | CM | CB | 6/1/00 |
| | PE | | 5-31-00 |
| TOLERANCE UNLESS OTHERWISE SPECIFIED .00 = ±.02" .000 = ±.010" DRILLS = ±.003" | | | |
| DO NOT SCALE DRAWING | | | |

crown INTERNATIONAL, INC.
1718 W. MISHAWAKA RD.
ELKHART IN, 46517
PHONE(219)294-8000
HTTP:\\WWW.CROWNINTL.COM

TITLE

PWA, EMI FILTER

| SIZE | DWG NO. | REV |
|---|---|---|
| A | 128243-6 | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 1 OF 5 |

PARTS LIST

| REF DES | C.P.N. | DESCRIPTION | MAP LOC. |
|---|---|---|---|
| C1 | C10325-6 | 2200.PF 250VAC 20% FILM Y2 | E 1 |
| C2 | C10325-6 | 2200.PF 250VAC 20% FILM Y2 | D 3 |
| C3 | C 7377-2 | .68UF 250V RFI CAP | D 2 |
| C4 | C10325-6 | 2200.PF 250VAC 20% FILM Y2 | A 2 |
| C5 | C10325-6 | 2200.PF 250VAC 20% FILM Y2 | A 3 |
| C6 | C 7377-2 | .68UF 250V RFI CAP | B 3 |
| C7 | C 7377-2 | .68UF 250V RFI CAP | C 1 |
| C8 | C 7377-2 | .68UF 250V RFI CAP | C 3 |
| C15 | C10325-6 | 2200.PF 250VAC 20% FILM Y2 | A 1 |
| C16 | C10325-6 | 2200.PF 250VAC 20% FILM Y2 | A 1 |
| F1 | A10285-29 | FUSE, 20A FLM20 SLO-BLOW | (SEE NOTE 5) |
| F1X | C 8867-1 | FUSE CLIP, PC MOUNT TAG | D 4 |
| F1XX | C 8867-1 | FUSE CLIP, PC MOUNT TAG | D 4 |
| J1 | 101031-1 | .250 FASTON, AUTO INSERTABLE | B 1 |
| J2 | 101031-1 | .250 FASTON, AUTO INSERTABLE | B 1 |
| L1 | 127902-1 | IDCTR,COMMON MODE 20A 2MH VERT | E 2 |
| L2 | 127902-1 | IDCTR,COMMON MODE 20A 2MH VERT | C 2 |
| L3 | 127902-1 | IDCTR,COMMON MODE 20A 2MH VERT | A 2 |
| PWB1 | 128242-3 | PWB, EMI FILTER | |
| R1 | A10265-10042 | 1.00M .5W 1% MF T/R | D 3 |
| WP1 | 103448-3050M | WIRE, 14 BRN 3/16 X 5.0 X FAST | C 4 |
| WP2 | A11386-3040M | WIRE, 14 BLU 3/16 X 4.0 X FAST | C 4 |

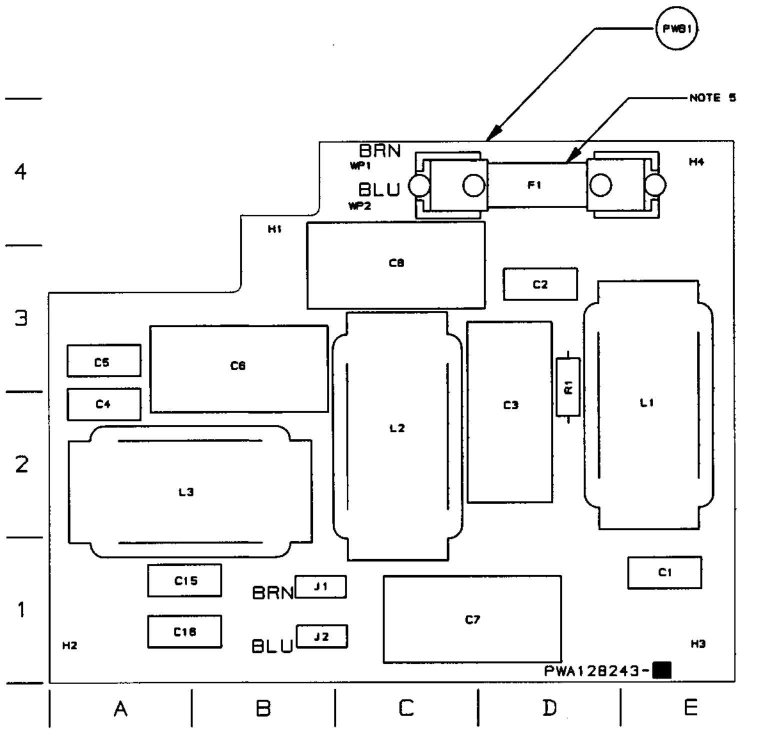
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| SIZE | DWG NO. | REV |
|---|---|---|
| A | 128243-6 | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 3 OF 5 |

# COMPONENT MAP
## TOP SIDE




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| SIZE | DWG NO. | | REV |
|---|---|---|---|
| A | 128243-6 | | A |
| SCALE NONE | PROJ NO. MD425D0 | SHEET 4 OF 5 | |

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# 6 Schematics

The schematics provided are representative only. There may be slight variations between amplifier to amplifier. These schematics are intended to be used for troubleshooting purposes only.

**CE4000 MAIN**
PWA NUMBER: 126218-13
Schematic Sheet:
43
44
45
46
47
48

PWA NUMBER: 126218-14
Schematic Sheet:
43
44
45
46
47
48

PWA NUMBER: 126218-16
Schematic Sheet:
1
2
3
4
5
6
7
8

**CE4000 BFG**
PWA NUMBER: 126828-7 (REV.A)
Schematic Sheet:
8

PWA NUMBER: 126828-12 (REV.A)
Schematic Sheet:
8

PWA NUMBER: 126828-13 (REV.A)
Schematic Sheet:
9

**CE4000 INPUT CE**
PWA NUMBER: 126883-4
Schematic Sheet:
5

**CE4000 FLYBACK**
PWA NUMBER: 127027-6
Schematic Sheet:
6

**CE4000 POT BOARD**
PWA NUMBER: 127563-3
Schematic Sheet:
5

PWA NUMBER: 127563-4 (REV.A)
Schematic Sheet:
5

**CE 4K SPEAKON/BDG POST OTPT**
PWA NUMBER: 127820-3
Schematic Sheet:
6

**CE4000 EMI FILTER**
PWA NUMBER: 128243-6
Schematic Sheet:
5

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